Paper
TRADE JOURNAL

OCTOBER 31, 1952 . . . Machine Coating Suit Dismissed, Page 11 . . . New Disposable Dinner Napkin, Page 12 . . . Development of Multicolor Letterpress Printing, Page 18.

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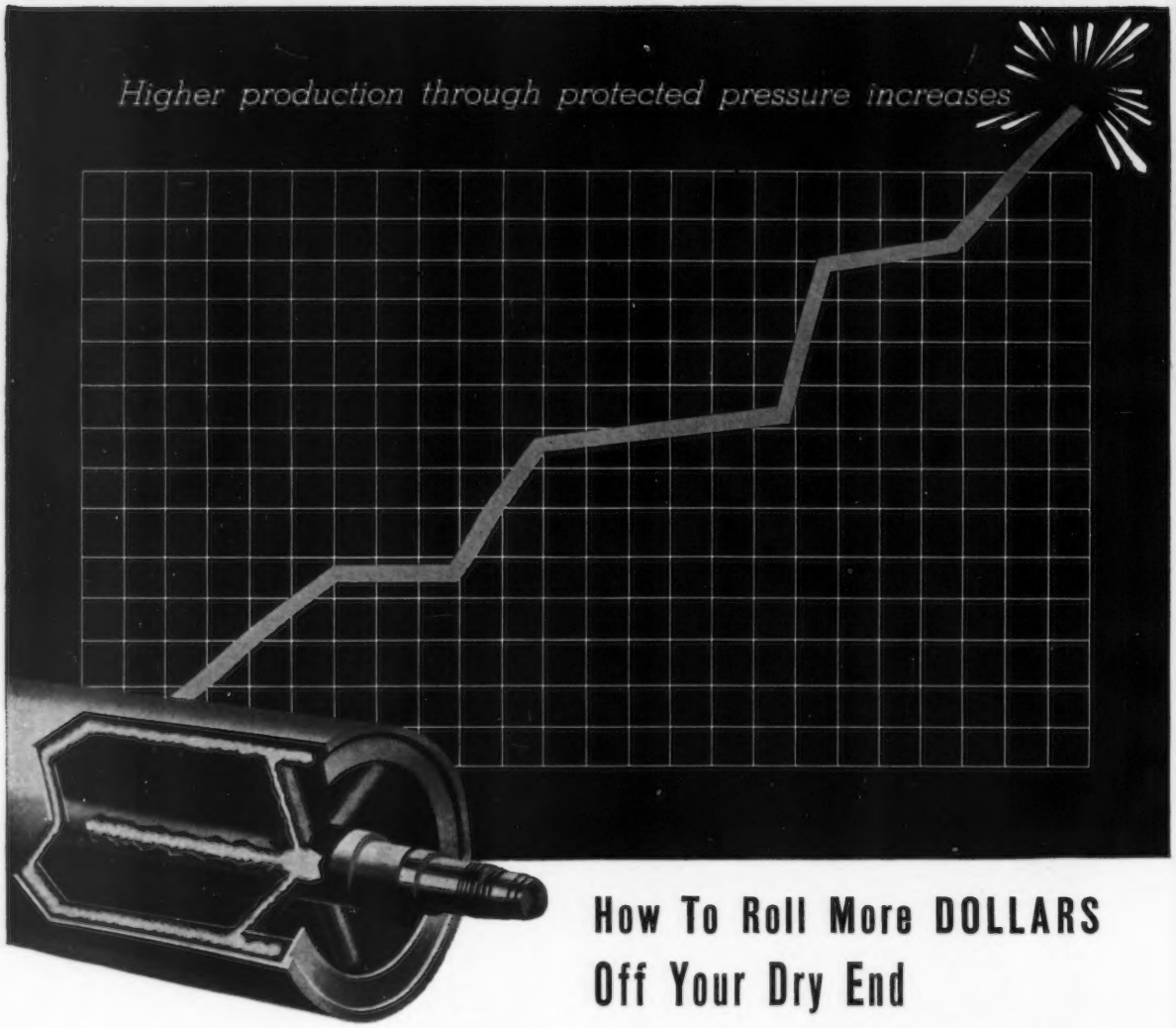

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YOU can get longer life from press rolls, more cushion for smoother service, and savings in re-coverings with B. F. Goodrich steel-jacketed press rolls:

Ordinary press rolls have a hard rubber base next to the cast iron core. Soft rubber is then put on this hard rubber. In spite of precautions, when hard rubber is vulcanized, blisters sometimes form between iron and rubber. As blisters grow larger they extend through the hard rubber base into the soft rubber, causing early failure of roll.

Steel jacket gives more cushion

B. F. Goodrich engineers studied this problem and developed steel-jacketed press rolls. The nonporous steel jacket replaces the hard rubber base, making cover *all soft rubber — all cushion.*

Rubber is "locked" to steel

This soft rubber is bonded to the steel by the B. F. Goodrich Vulcalock process — developed and patented by B. F. Goodrich. This adhesion (over 500 lbs. per square inch) is actually a "locking" of rubber to metal. Rubber is of same density clear to metal and all the way across face of roll. There are no strings used to carry off gas, which in ordinary rolls, leave markings on rubber surfaces.

Ordinary rolls, vulcanized under steam, get only 35 lbs. pressure. Vulcanization of B. F. Goodrich rolls is done by a special hydraulic process under 225 lbs. pressure. Gives better adhesion, makes cover more dense, tougher, rolls dry faster.

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With ordinary rolls, core diameter decreases about ⅛" each time core is re-covered. But with B. F. Goodrich Vulcalock steel-jacketed rolls, cores can be re-covered without changing diameter. Steel core is not machined down and re-threaded each time. Old cores of ordinary rolls can be built up to any desired diameter by application of B. F. Goodrich steel jacket.

B. F. Goodrich engineers will be glad to send you full details or come to your plant to make recommendations. No obligation, of course. Write: *The B. F. Goodrich Company, Industrial and General Products Division, Akron, Ohio.*

Paper Mill Rolls
BY
B.F. Goodrich
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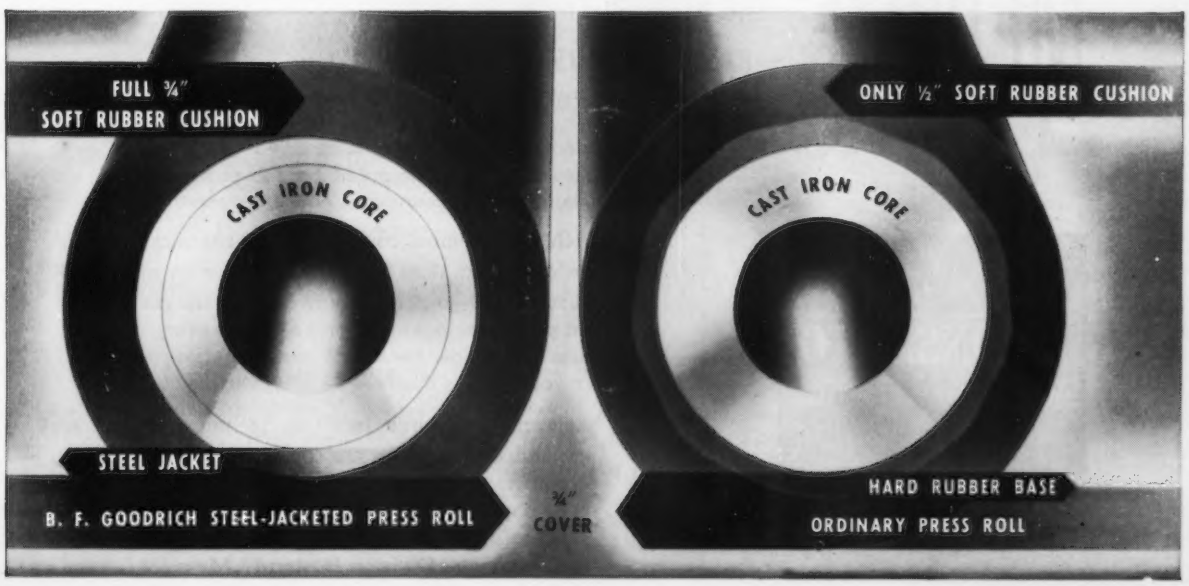

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Mersize RM, the original combination of chemically-built size and rosin, does the work of *twice as much* straight rosin size—and at only two-thirds the cost. At present prices, savings are over 3 cents for every pound of rosin size solids. *Each tank car* of Mersize RM can save your mill as much as $4,000 in sizing costs!

Monsanto's research facilities, technical service and expanded production are constantly at work for you—to provide still better sizing methods for a wide variety of paper products . . . It will pay *you* to ask for full details immediately. MONSANTO CHEMICAL COMPANY, Merrimac Division, Boston 49, Mass. Mersize: Reg. U. S. Pat. Off.

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Paper TRADE JOURNAL

OCTOBER 31, 1952, *Vol. 135, No. 18*

Paper Coating Suit Dismissed 11

Experiment to Reduce Odor From Nekoosa Kraft Mill 11

Disposable Cellulose Napkin 12

Brady Quik-Masks for Anodized Metal 12

Westvaco's Williamsburg Mill Again Gets Grand Prize 14

Improve Trays and Pails 14

Multicolor Letterpress Printing 18

Wire for Wet Locations 27

International Nickel Demonstrates Ductile Iron 28

Dry-Type Distribution Transformer 35

Metropolitan District—Empire State TAPPI Meet 35

Varied Technical Program Keynotes Roanoke Meeting 36

D E P A R I M E N T S

Trends 7
Our Business 9
News of the Week 11
New Uses For Paper 12
Merchandising Ideas 14
People 16
Industrial Section 18
Literature 25
CLASSIFIED ADVERTISING ... 39
Suppliers 26
Equipment and Supplies 31
Prices 32
Prices of Materials 33
News of Associations 35
Obituaries 38
Production Ratio 38
ADVERTISERS INDEX 50

NEXT WEEK—*Can management decisions on supply's demand, labor policy, and production scheduling become interesting and stimulating to the wage earner? Fred Rudge says, Yes! And adds that these matters are best communicated by the foremen. See his article "Can Foremen Teach Economics to Employees?"*

S U B S C R I P T I O N S

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REMEMBER THESE DATES

NOV. 5-6: TAPPI Plastics Conference, Marshall Hall, College of Forestry, State University of New York.

NOV. 12-14: Alkaline Pulping Conference, Technical Assn. of the Pulp and Paper Industry, Battle House, Mobile, Ala.

NOV. 18: Miami Valley Div., of the American Pulp and Paper Mill Superintendents Assn., Joint Meeting with the Ohio Section of TAPPI, American Legion, Middletown, Ohio.

NOV. 20-21: TAPPI Corrugated Container Conference, Schroeder Hotel, Milwaukee, Wis.

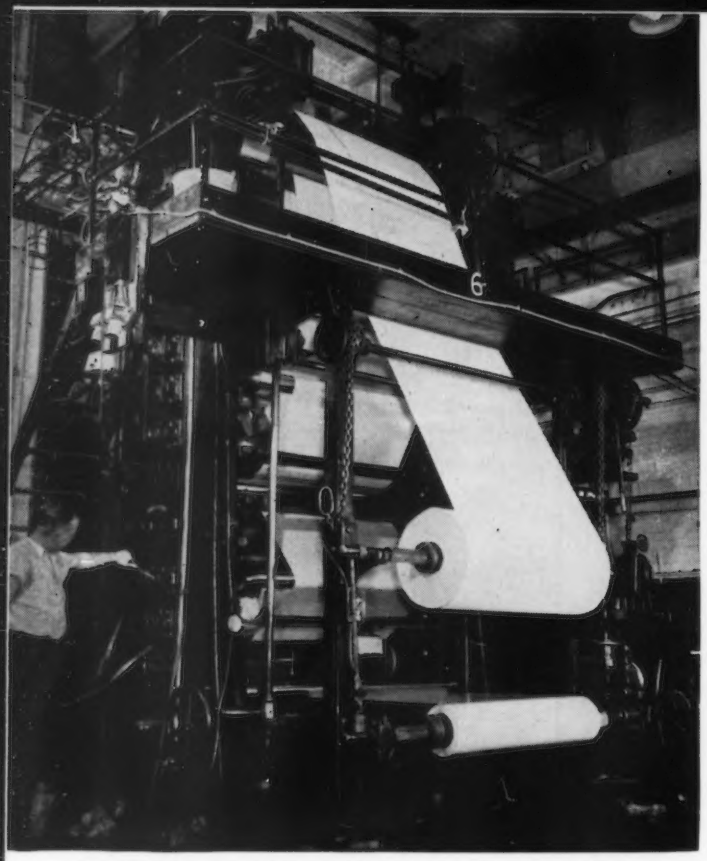
NOV. 20: Michigan Division, American Pulp and Paper Mill Superintendents Assn., Hotel Harris, Kalamazoo, Mich.

NOV. 21: New England TAPPI, Helen Kiely Night, Roger Smith Hotel, Holyoke, Mass.

Feb. 15-20, 1953: APPA, Annual Meeting, Waldorf-Astoria Hotel, New York, N. Y.

FEB. 16-19, 1953: TAPPI, Annual Meeting, Commodore Hotel, New York, N. Y.

JUNE 9-11, 1953: APPMSA, National Meeting, Atlanta-Biltmore Hotel, Atlanta, Ga.



A Sun Lubricant saved this mill $2,900 in two years. Supercalender bearing failures used to average five a month, because the former oil could not stand the temperature and operating loads.

THESE "JOB PROVED" SUN LUBRICANTS HELP YOU AVOID COSTLY DOWNTIME

When a Sun representative recommends a lubricant, he does so with confidence. Every product developed in Sun's laboratories is exhaustively tested by actual use in industry until desired performance characteristics have been clearly established. Then, and only then, is it rated "Job Proved" and offered for sale.

In tackling your problems, a Sun representative draws on the wealth of experience he has acquired working with all fields of industry. If the technical nature of your problem calls for it, one of a special group of Sun mechanical and chemical engineers will go to work in your behalf. Back of them, remember, are the vast research, development and refining facilities of Sun Oil Company. All of this is your assurance that Sun lubricants will help to protect your equipment, save you costly downtime.

For complete information on Sun oils and greases, or the services of a Sun representative, call or write the nearest Sun Office.

PAPER MILL LUBRICANTS

SUNVIS 900 OILS—Unexcelled lubricants for circulating systems of calenders and turbines, and for bath-oiling of jordans, claflins, pulpers and drive gear boxes. Also for ring, chain, or collar-oiling of plain bearings on a variety of equipment. Sunvis 900 Oils have a high viscosity index and uniform 0F pour point, are fortified to prevent rust and corrosion.

SUNVIS OILS—Straight mineral oils for circulating systems and reservoirs of machines operating at normal temperatures. Sunvis Oils have high viscosity index, low pour point, and low carbon content.

SUNVIS H.D. 700 OILS—Give long, trouble-free service in circulating systems of calenders and drier rolls equipped with antifriction bearings. Used in reduction gear units of these types: spur, helical, herringbone, spiral bevel, straight bevel. Sunvis H.D. 700 Oils supply detergency needed to keep oil lines free from contaminants, in addition to minimizing oxidation and corrosion.

CIRCO OILS—For general-purpose lubrication throughout the mill. Circo XXX Heavy Oil has proved especially suited to once-through lubrication of plain bearings of drier rolls.

STEAM CYLINDER OILS — Lubricants, compounded and uncompounded, for saturated and superheated steam conditions of steam engines. Also for worm gear speed-reduction units.

SUNEP OILS—Lead-naphthenate type of extreme pressure lubricant for thrust bearings on jordans and claflins, and for hypoid and worm gear reduction units on agitators, hydrafiners, pulpers and drive stands. Excellent stability, plus rust-preventive and noncorrosive characteristics, helps prolong life of gear sets.

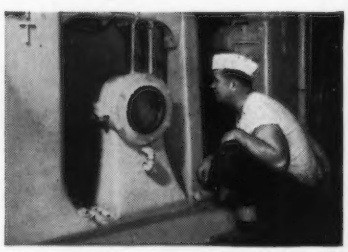
MARINE ENGINE OILS—Compounded to resist being washed off by water in stock preparation equipment and the wet end of paper machines.

SUN GUN GREASES — Smooth greases with excellent pumpability. Water resistant, ideal for wet-end lubrication. Designed for pressure fittings, cups or hand-packing on equipment operating at normal speeds and temperatures.

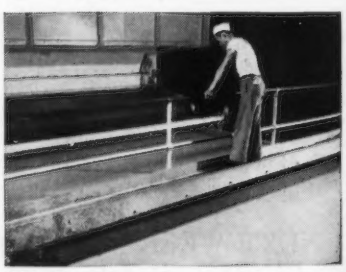
SUN ROLLER BEARING GREASES—For antifriction bearings in electric motors, generators and equipment throughout the mill.

SUN GEAR COMPOUNDS—Heavy, black open-gear compounds for use at high temperatures.

SUN ADHESIVE PRESSURE GREASES—For chains, slides, cams, sprockets, open gears, cables, couplings, linkages, etc., when "throw-off" with resultant spotting must be avoided. Applied without preheating.



A Sunvis Oil enabled this mill, one of the biggest, to minimize scoring of drier roll bearings. Recently the company specified the same oil for a brand-new machine—one of the fastest producers in the world.



This Fourdrinier has used 50 percent less grease ever since management switched to a Sun bearing grease. The costly product formerly in use would not stay in the wet-end bearings under continuous operation.

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Paper TRADE JOURNAL

TRENDS

What's In A Name?
A Sack is a Bag and Is Bagging

Uniformity in word use, especially as it pertains to paper supplies and bagging in particular, was suggested last week to the National Institute of Governmental Purchasing Agents by W. N. Butler, a purchasing agent of Newark, N.J.

To Mr. Butler, an old bag is a gunny sack. In New York, he said, it is a burlap bag; in New Orleans, a tow sack. Asking for standardized buying language, he said that "A bag is going to be called a bag in every market in the U.S."

Standardized Classifications Needed for Waste Paper Grades

Standardization of buying language also is a need of the waste paper market. Not only have the Waste Paper Grade Definitions of March 22, 1949 (Approved by the Waste Paper Institute, Div. of National Association of Waste Materials Dealers) been lost through downgrading of the post-Korean boom market of 1951, but many of them have passed beyond usefulness as new terms have evolved.

Important grades of waste papers which need clarification acceptable to producer, dealer, packer, broker and consuming mill in all markets—north, east, south, midwest, and west coast are among the krafts.

Cited for example are the old brown kraft papers. It is increasingly difficult to get prices even in the same city for such a grade. Dealers say no such grade has existed since 1951, that *Triple Sorted*—known in the Waste Paper Standards as *Superresorted Brown Kraft*—actually is no better than the former grade of No. 1 Brown Kraft. (Incidentally, the Triple Sorted Kraft has never been known to the trade by any other name; *Super Resorted* was never an accepted nomenclature. It is therefore suggested that the Triple-Sorted Grade be restored to accepted usage.)

Also listed in the Waste Paper Standards (13) is a grade of Used Kraft Bags, consisting of baled used kraft bags free of tar, colored pigments, twisted or woven stock, cement, lampblack or other similar objectionable materials.

Because of the unfortunate experiences which paper mills had with this grade as such, reuse of kraft sacks is mostly restricted to flour and sugar bags, and a grade name has unofficially been adopted for these. Fertilizer, chemical and cement bags usually are packed with old brown kraft and are worth much less than the flour and sugar bags.

Flyleaf savings also is a much misunderstood term. An omnibus grade which includes many varieties of flyleaf stock, the price is hard to come by and is of little value to the trade. The consumer has to know the source of the shavings to determine its value to him.

Another misnomer is No. 1 Book. *Paper Trade Journal* has tried to clear up some of the market misunderstanding about what constitutes No. 1 Book and what No. 1 Repacked by defining on its *Prices* page for the former: "Includes *Time* and *Life;* no coarse groundwood"; and for the No. 1 Repacked, "Not to exceed 10% groundwood."

The Philadelphia market, however, still refers to No. 1 as the mixed books which are rejected as a grade by most mills. Defined clearly, the book grades would have more value. Instead of falling into the mixed paper price range, (currently $7/10) they could be more fully utilized at the $16/18 range, New York market.

Greater utilization of waste papers as secondary fibers at home and abroad awaits better grading and packing. A general understanding and acceptance of grade classifications also will develop confidence and respect among those trading in paper mill supplies.

Fumigation Costs To Lift Bagging Prices

It appears likely that a half-cent per pound rise in the price of imported old bagging will result from fumigation requirements.

Due to an infection caused by an insect known as the golden nematode, the Federal Bureau of Entomologists is enforcing the regulation which requires that all bagging, with the exception of cotton mill wrappers, be fumigated.

Already on the books but not strictly enforced is such a regulation. Whether it will be required of lots already in transit is not quite clear. Because fumigation is costly, the situation has produced a change in the market, and a price rise is expected.

The golden nematode has ruined the potato crop in New Jersey, New York State and Pennsylvania, according to reports.

World Sulfur Supply Benefits By New Projects

Italy.—The shortage of sulfur which plagued U.S. industry in 1951 and threatened industrial production of the world's free nations in the boom which followed the Korean incident should be a thing of the past if all the developments under way come to maturity.

Not the least important of these is involved in late news from Rome which tells of the plans and financing for rehabilitation of the Italian sulfur industry—at one time an important world source of supply.

According to the dispatch, the Italian Government will advance initial financing funds to the amount of 9,000 million lire for the renewal of plant and equipment in which 47 firms will share.

Prospecting in Sicily and in the Marchician region of the mainland has led to the location of chalky sulfur deposits in the region bordering on Le Marcheand La Romagna and in the vicinity of Caltanisetta and Agrigento, it is reported.

In Sicily, prospecting covers a wide area in Calabria. At Porticane, the Montecatini Corp.'s research has located new veins which will extend the working life of the mines some 10 years or more.

Canada.—An important potential source of sulfur is believed to lie in a wet gas field discovered by Shell Oil Co. last year 20 miles south of Calgary in the Okoyoks area of southwest Alberta. Natural gas experts report that the gas found there contains more sulfur than in any other area in Canada.

So far four wells have been drilled which are assured of production, all of them at least one-mile extensions. Shell's plans call for stepping up of the program development.

Mexico.—Plans to build a $5 million sulfur facility which will process sulfur at Jaltipan in southern Vera Cruz on the Isthmus of Tehuantepec were announced last week by Pan American Sulphur Co. Using the Frasch process, the plant is rated capable of producing some 300,000 to 600,000 long tons annually.

Also reported is progress on the work at the San Cristobal sulfur dome concessions of Mexican Gulf Sulphur Co. Completion of the construction is expected in early 1953 with a minimum capacity of 200,000 long tons annual production. Expansion plans visualize production of 500,000 long tons by 1955.

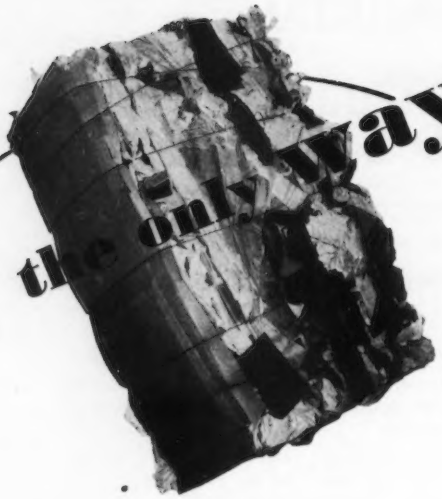
—E.P.N.

Paperboard Production (Tons)*

	Oct. 18 1952	Oct. 11 1952	Oct. 20 1951
Production	248,541	245,680	217,734
New Orders	226,513	236,587	168,866
Unfilled Orders	519,768	544,741	429,639
% of Activity	97	96	89

* Source: National Paperboard Assn.

this Way the only way



There is just one way and one way only to obtain a 99% separation of fiber and foreign material in the above bale of dirty mixed papers—salvage 99% of the fiber present —discard 99% of all the brick bats, rags, rope, sand, grit and what have you.

That one way and only way is thru the use of the Shartle automatic stock cleaning system—standard for the purpose the world over.

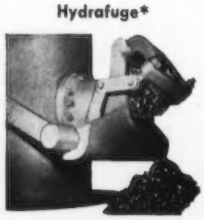
If you use dirty mixed papers in your furnish and are staggering along with some makeshift and inadequate cleaning method, look into the latest Shartle way of doing this particular job. You'll be surprised at its efficiency.

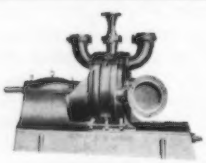
Hydrapulper*

Junk Remover*

Ragger*

Hydrafuge*





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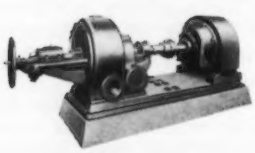

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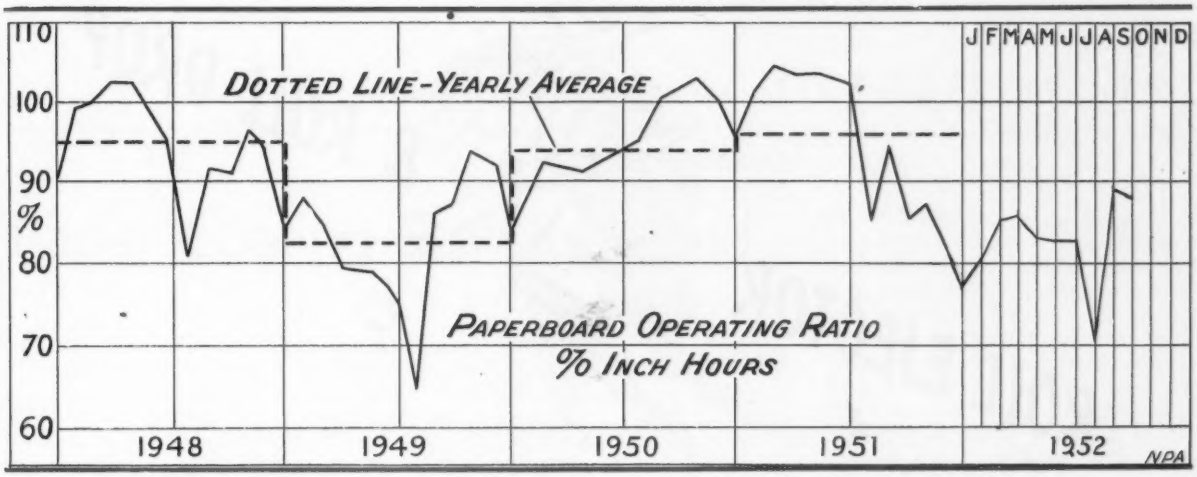
OUR BUSINESS



Brief of Important Figures

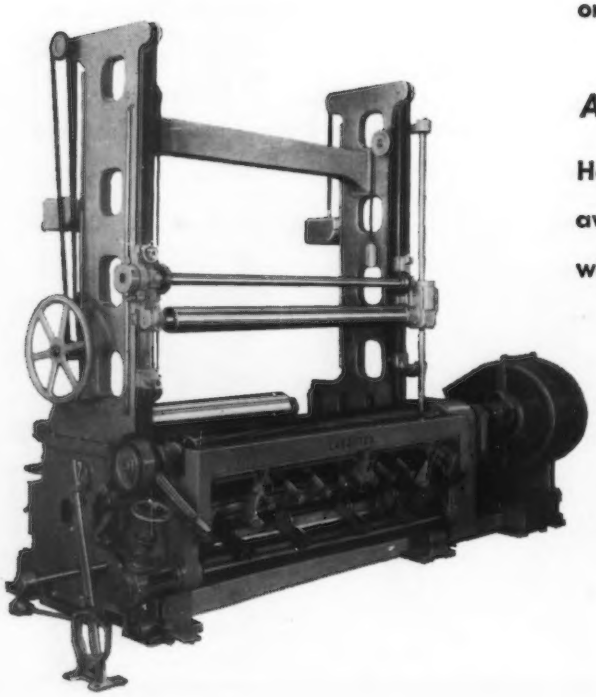
Source	Production	WEEK ENDING Oct. 18, '52	Sept. 20, '52	Oct. 20, 51
APPA	Paper Production Percent Capacity[3]	89.9	86.8	100.4
	Unbl. Kraft Paper Production Percent	76.9	75.9	100.4
NPA	Paperboard Operating Ratio Percent Inch Hours	97	93	89
APPA	Paper Production* (Except Newsprint and Building Papers) Tons	Sept. 1952 775,000	Aug. 1952x 773,000	Sept. 1951 821,000
	New Orders Tons	804,000	749,000	811,000
	Unfilled Orders Tons	806,000	751,000	986,018
	Shipments Tons	748,000	765,000	811,000
NPA	Paperboard Production Tons	Sept. 1952 875,455	Aug. 1952 886,035	Sept. 1951 816,356
	New Orders Tons	954,126	832,096	825,249
	Unfilled Orders Tons	459,907	388,360	458,150
	Our Customers Activities Index[1]	**Latest Mo.°**	**Previous Mo.°**	**Year Ago°**
FRS	Manufacturers Total Index	228	204	229
	Durable Mfg. Index	270	232	269
	Nondurable Mfg. Index	194	181	197
	Chemical Products Index	294	294	303
	Mfg. Food Products Index	185	174	189
	Printing and Publishing Index	157	145	166
ODC	Magazine Advg.-Printer's Ink Index	369	403	376
	Prices Index			
BLS	Consumers Price Index[1]	191.1	190.8	185.5
	Wholesale all Commodities[4]	112.1	111.8	113.7
	Wholesale Processed Foods	110.5	110.0	111.2
	Commodities other than Farm Products and Foods[4]	112.9	112.5	114.9
	Wholesale Pulp, Paper[4] and Allied Products	115.6	115.3	119.5
	Purchasing Power of Dollar, Consumers Prices[1]	52.3	52.4	53.9
	General Activity Index			
FRS	Mfg. Production-Worker Payroll[4]	130.5	121.7	128.4
	Unemployment Compensation Initial Claims (M)	733	1,585	950
	Miscellaneous Carloadings–Thousands of Cars	1,852	1,155	1,928
	Electric Output (Million KW hr.)	39,752	37,007	37,632
PTJ	Average 32 P & P Common Stocks as of Oct. 25	$34.17	$35.67	$38.44

[1] 1935–39 = 100 Unadjusted Index.
[3] For Five Weeks.
[3] New 6-7 day basis.
[4] New Index 1947–1949 = 100.
* For details see APPA Monthly Statistical Summary—September 1952 Eestimated Figures.
° Latest Month Available on Request.
x Revised Figures.

ROLL EJECTOR & ROLL DROP

Automatic hydraulically operated Roll Ejectors are available for Type "BA", "CA" and "DA" Langston Slitters and Winders or Rewinders.

Hydraulic Roll Drops can be provided to safely lower heavy rolls to floor level or onto roll dollies or trucks.

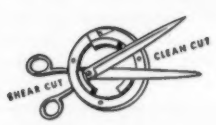


A type and size for every purpose:

Heavy Duty Mill Type Langston winders are available with 11", 14" and 18" diameter winding drums and in widths up to 198".

Langston

SLITTERS & WINDERS



SAMUEL M. LANGSTON COMPANY • Camden, N. J.

Paper Coating Suit Dismissed

MILWAUKEE, Wis.—A suit in which Consolidated Water Power & Paper Co., of Wisconsin Rapids, charged the Kimberly-Clark Corp. of Neenah, Wis., with patent infringement has been dismissed by Federal Judge Robert E. Tehan.

Judge Tehan ruled that Kimberly-Clark did not infringe on the patent and that the patent was invalid. Consolidated had asked for an injunction against Kimberly-Clark and damages to be determined by a special accounting.

The trial ended March 10, 1950. It was taken under advisement for a long period because of the size and difficulty of the case, Judge Tehan said.

It was estimated that the suit was in the "million dollar class." The infringement, Consolidated charged, was from about 1940 to 1950, when the patent expired. Because the patent had expired, the only question before the court was that of damages, if any, the judge said.

"The plaintiffs allege that their coating process invention was one of the greatest advances in the papermaking industry in that it taught an economical and efficient method of applying a mineral surface on a web of paper as it moved through a papermaking machine," Judge Tehan said.

The process was developed by Peter J. Massey. Massey's original coater was put into use at the Byrant Paper Co., Kalamazoo, Mich., in the fall of 1932. In 1933 it was installed by Consolidated. Meanwhile, the judge said, the defendant began to use the "G-K process," employing a pair of applicator rolls without the use of brushes, similar to the Massey process.

Charles J. Merriam, Chicago, attorney for Consolidated, charged that in 1940, Kimberly-Clark began the infringement by adding a metering roll to its G-K coater.

To disprove infringement, Kimberly-Clark contended that its operation should be compared with the patent and not with Consolidated's operations.

The claims must be construed in the light of the representations to the patent office, Judge Tehan agreed.

"Although the plaintiffs claimed it was one of the greatest inventions ever made in the industry," Judge Tehan said, "they showed no unusual concern or apprehensiveness either in January, 1940, when they learned that the defendant was going to build a paper machine to make an improved type of direct coated paper, or in December, 1940, when it had analyses made of the defendant's paper."

Judge Tehan said Massey's process was not "invention over prior art" and did not constitute something "new and useful." Thus, he said, it should not have been accepted by the patent office.

Experiment to Reduce Odor From Nekoosa Kraft Mill

The first experiment in the state of Wisconsin to alleviate the unpleasant odor from a kraft mill has been started at the Nekoosa mill of Nekoosa-Edwards Paper Co.

The chemical treatment was begun on a trial basis October 6. While definite improvements has been noted already in the mill and in the Nekoosa community, a decision as to whether the treatment will continue on a permanent basis depends on results obtained from the present 30-day trial period, as well as the cost and other factors.

The material used is a new product developed about a year ago by the DuPont company which was tailormade for the pulp industry. It's called "Alamask P-3 Concentrate," and is a compound of synthetic aromatic chemicals.

According to J. C. Moertel, odorologist and DuPont representative, the product does its job by "re-odorizing" or masking the obnoxious odor resulting from the kraft process. Moertel says the Alamask produces a "spice-like" odor when added in the proper proportions to pulp.

The procedure appears simple; a small quantity of Alamask (approximately 28 ounches to a 6-ton batch) is poured into the digesters immediately after chips are loaded. The compound is dissolved in the cooking liquor and thus goes through the entire pulp making and recovery systems.

A series of "snifter" tests are being conducted at various key points throughout the pulp mill during the 30 day trial period to determine what effect the Alamask is having on the familiar odor associated with kraft mills.

Moertel says the Alamask treatment is currently undergoing experimentation in several other mills.

Estimated cost of the "re-odorizing" treatment for the Nekoosa mill is about 22 cents per ton of pulp, or in the neighborhood of $1,000 a month.

Canadian Wage Increases

The long wage negotiations between the unions and the Canadian newsprint companies finally have come to a settlement. The wage increases are:

Effective November 1, all rates to be increased eight cents, with four cents retroactive to May 1.

Differentials of three cents on the 4–midnight and five cents on the midnight–8 shifts. The old agreement called for a three-cent premium between 8 p.m. and 8 a.m.

Time and a half for workers required to work on scheduled or designated days off.

The fine grades settlement included:

A 44-hour week with 48-hour pay, effective January 1.

Three cents an hour for every straight time hour worked from September 30 to December 1 to compensate for "loss of leisure time" in the interval before the shorter week goes into effect.

Time and a half for workers required to work on scheduled or designated days off.

Two cents differential for second shift and three for third. Some companies previously paid shift differentials.

Both contracts expire May 1.

Paper for Germany

The German Motorship *M. S. Elfriede* picked up 350 tons of Cheboygan, Mich. produced newsprint. The newsprint is consigned to Bremen, Germany.

NEW USES FOR PAPER

Disposable Cellulose Napkin

A new supersoft disposable cellulose dinner napkin of 4-ply thickness and featuring new softness plus new wet strength, so it will not "pick off" or cling to "finger foods" — chicken, ribs, hamburgers, French fries, etc.—has recently been introduced by Groff Paper Co., St. Paul, Minn.

The maker claims it is America's first and only 4-ply cellulose dinner napkin and is of entirely new construction. It is made of four thicknesses of superwhite cellulose, scientifically developed especially for this napkin to give it extra strength, even when wet, and unusual softness. It is completely lint-free and stays on the lap.

Styled to blend with the finest of table settings and surroundings, the new "Simplicity" design of this new napkin features a satin smooth, pure white, unembossed center area smartly framed by a distinctive 3-dimensional fluted border. It is full dinner size, 17 x 17 inches.

As an additional protection to the user and to assure complete freshness, all supersoft cellulose napkins are produced and packed under Westinghouse Sterilamp rays.

The new 4-ply supersoft is packaged in gold and black cellophane packs of 50 napkins for home use and 100-count dispenser boxes for restaurant and institutional use.

Two other companion supersoft cellulose napkins, 3-ply and 2-ply, made of the new type cellulose developed for 4-ply supersoft, are also being marketed by Groff Paper Co.

Screen Door Covers

Screen door covers of aluminum foil, said to provide weather protection for several seasons, are being made by Central States Paper & Bag Co., 5221 Natural Bridge, St. Louis 15. They are easy to install, requiring only a hammer and scissors, and are large enough to cover an average door.

Brady Quik-Masks for Anodized Metal

W. H. Brady Co., Chippewa Falls, Wis., manufacturers of self-sticking industrial products, announces the addition of a new line of Quik-Masks developed specifically for use on anodized surfaces.

The material used for these new masks is Minnesota Mining and Mfg. Co.'s No. 214 paper masking tape. This tape has recently been developed by 3M to meet the demands of the painting and plating industry for a tape that adheres to anodized surfaces during high temperature baking cycles. It is easily removed after baking.

The principal applications for this new line of Quik-Masks are on anodized aluminum, pickled magnesium, dichromated magnesium and similarly treated metal surfaces. The anodized areas to be protected from paint are first masked, paint is applied and then the entire part is baked. Baking temperatures for painted anodized metals are frequently in excess of 400°F.

Painting and plating engineers have for years tried to use ordinary masking tapes on anodized metals. Because the soft adhesive on these masking tapes migrates into the etched grooves of anodized surfaces, they experienced difficulty in removing the tape after the baking cycle. It was usually necessary to clean off the adhesive residue — a costly and time-consuming job — because the migrated adhesive had baked into the etched grooves.

The great advantage of these new masks is that after baking, they can be readily removed without leaving a trace of residue. The adhesive used is extremely firm and will not migrate into the etched groovings of anodized surfaces. These masks stick without moistening and are made to customer's specification. Small sized masks come mounted on handy dispenser cards; larger masks are mounted on a folded liner, which protects the adhesive until the masks are ready for use.

Ontario Workers Get Increase

OTTAWA — As the result of a settlement, about 12,000 workers of Ontario pulp companies will get an hourly wage boost of four cents, retroactive to May 1, and another four cents effective November 1, with increased wage differential for shift workers and certain overtime provisions being included in the settlement involving 12 Ontario companies. The agreement will be effective to April 30, 1953.

The employees involved include members of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers; International Brotherhood of Papermakers; International Brotherhood of Electrical Workers; International Assn. of Machinists; International Union of Operating Engineers; International Brotherhood of Carpenters and Joiners of America; United Assn. of Plumbers and Steamfitters; International Longshoremen's Assn.; International Brotherhood of Stationary Firemen and Oilers. All nine unions are affiliated with the A.F.L.

The companies affected by this contract are Abitibi Power and Paper Co., Ltd.; Provincial Paper Ltd., Port Arthur Division; Beaver Wood Fibre Co.; Great Lakes Paper Co.; Kimberly-Clark Corp. of Canada; Spruce Falls Power and Paper Co.; Long Lac Pulp and Paper Co.; KVP Co.; Ontario-Minnesota Pulp and Paper Co.; Marathon Paper Mills of Canada Ltd.; Ontario Paper Co.; St. Lawrence Corp., Red Rock Division.

Eric C. Taylor, appointed by the Ontario Government, was chairman of the board of conciliation, with Norman Mathews representing the employers and Senator Arthur Roebuck acting for the employees.

Celgar's Forest Management License Still Delayed

The Celgar Development Co., Ltd., application for a forest management license in the Arrow Lakes area of British Columbia will not be opposed by the mining interests of the province. Spokesmen for the Mining Assn. of B. C. state that the industry is on record as favoring the principle of forest management for sustained yield of forest products.

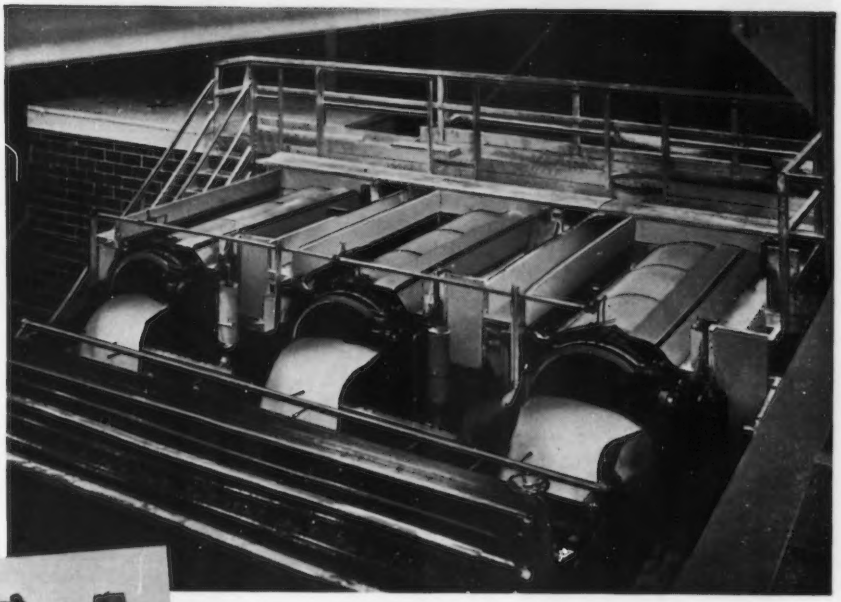
The Celgar company has an application before the provincial government for a forest management license which, if granted, will lead to the construction of a $65 million integrated forest industry in the Castlegar area. The *Financial Times* reports that opposition by three firms is still holding up the granting of the license.

First Newsprint from Albany Port Shipped to S. A.

The Port of Albany, N. Y., recently loaded the first shipment of newsprint to a foreign port.

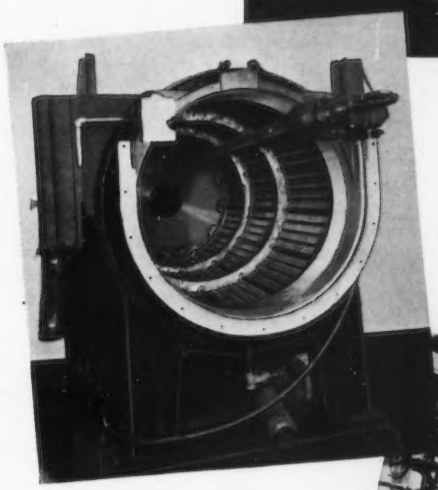
Nine hundred tons of newsprint from the Gould Paper Co., Lyons Falls, were loaded aboard the Swedish ship *Sameland* for Santos and Rio de Janeiro, Brazil.

YOU NEED BIG, MODERN BIRD SCREENS

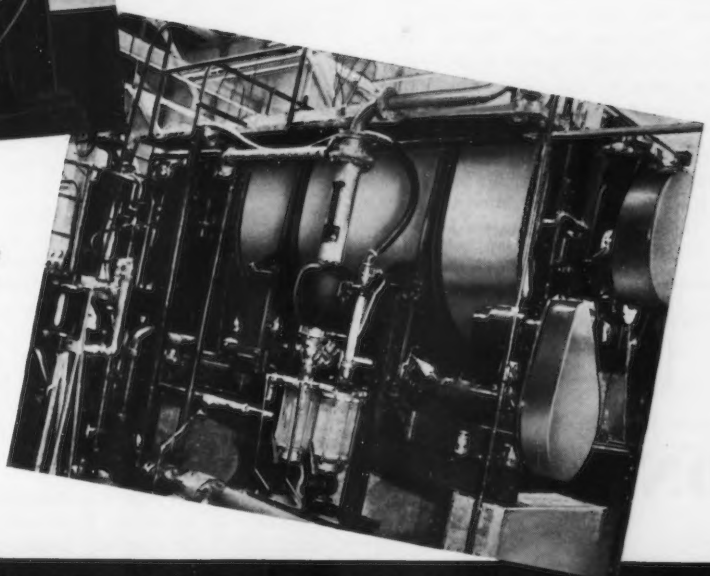


—with the capacity to take care of today's paper machine speeds and feeds.

—with the ample screening area to permit finest possible screen slots for your grades of stock.



—with the Bird Oscillating Shower Pipe to keep the screen slots clean and open while using only a small fraction of the water required with ordinary showers.

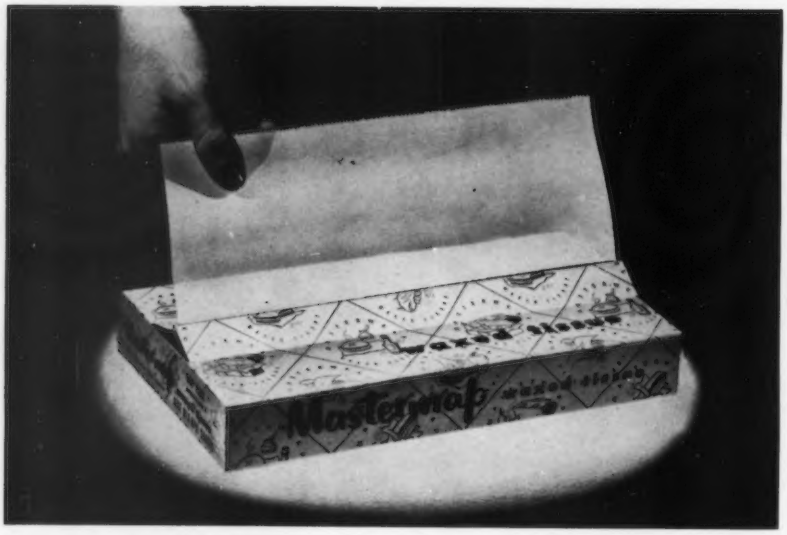


—with Dirtec tailings units which handle screen tailings as fast as they collect (seven tons per screen per day) remove all the dirt and return the clean stock with negligible fibre loss.

BIRD MACHINE COMPANY

SOUTH WALPOLE • MASSACHUSETTS

MERCHANDISING IDEAS



New Dress for Masterwrap

Masterwrap, interfold wax tissue manufactured by the Rhinelander Paper Co., Rhinelander, Wis., now has added sales appeal in a brand new modern package motif. New design is calculated to complement modern store interiors and to reflect, by means of fresh, clean design, the up-to-the-minute service of today's food merchandising. Ideal as a food and sandwich wrap, pick-up sheet for baked goods, or for counter service and "take-outs."

Improved Trays and Pails

Marathon Corp., Menasha, Wis., has added to the quality of its Kant-Leek Food Tray by changing manufacturing specifications to make it pure white on both sides. Previously, the outside of the tray was somewhat darker than the inside. The new double bleach lined tray is designed to appeal to self-service shoppers by enhancing the appetizing appearance of the foods it packages.

There is another new feature of the tray that cannot be seen. This is a new hard sizing in the liner that enables the tray to maintain its firmness in use. Tests using moist and penetrating foods have proved the value of the liner.

Kant-Leek Food Trays, ideal for dispensing ground meats, bulk pickles, fresh produce, bulk lard, potato salad and similar items sold in markets and delicatessens, have long been popular for their one-piece glued-end construction, which eliminates all possibility of leaky corners. Their waxed inner surface prevents absorption of moisture.

The same new double bleach lined board is also being used for Marathon's wire handle food shop pails. Useful for packaging all kinds of bulk foods where moisture is a problem (such as cottage cheese, oysters, potato salad and other delicatessen foods), the pails lock securely, assuring spill-proof carrying. With the new board, waxed inside, they are even better looking and better performing than before.

A.P.W.

ONLIWON

INDUSTRIAL
TOWELS
TISSUE

Provincial Conducts Direct Mail Contest

Provincial Paper Ltd. has announced the winners in its Direct-Mail Leaders Contest which the company sponsored. Competition was divided into five groups, each with five winners without rank. Idea, layout, copy, physical quality and effectiveness were the considerations on which they were judged.

Among the winners was included: Direct-Mail Single Piece, Howard Smith Paper Mills Ltd., folder. Other classes were Direct-Mail Campaign, Catalogue, Internal and External House Organs, and Calendars.

Rayonier Opens Advertising Campaign

Rayonier, Inc., has a big drive starting in national and business magazines, using four-color double-page spreads, with black and white layouts slated for newspapers. Ads will tell how the material is used. Brooke, Smith, French & Dorrance, Inc., is the agency.

Westvaco's Williamsburg Mill Again Gets Grand Prize

Employes of the Williamsburg, Pa., plant of West Virginia Pulp and Paper Co. for the second year running have won the Edward Benton Fritz Memorial Trophy, grand prize for the best safety achievement in the pulp and paper industry in the United States and Canada during 1951.

The award went to Williamsburg as a result of an outstanding record compiled by more than 480 employes, who worked a total of 994,163 man-hours during the calendar year without a single lost-time accident. The trophy was won in competition with 270 mills participating in the National Safety Council contest.

Williamsburg is one of the few mills in history to take the coveted safety award two years in a row. In 1950, the plant won the award on the basis of its record of no lost-time accidents during 997,868 man-hours of exposure.

The Fritz awards are among many safety honors won by Williamsburg employes during a phenomenal safety string which extended from December 6, 1948, to March 21, 1952. During that period the plant worked a total of 3,305,848 man-hours without one disabling injury, coming within an ace of establishing an all-time safety record in the pulp and paper industry.

The victory in the National Safety Council competition this year gives the mill a handsome illuminated plaque which will be hung alongside the 1950 Fritz trophy in a room lined with safety awards won in company, state and national competitions.

Plant officials also announced that the mill had been awarded the National Safety Council's Award of Honor for completing three million man-hours of exposure without a disabling injury. The Williamsburg plant is the second pulp and paper mill in National Safety Council history to win this honor, the highest conferred by the organization which helps guide the safety activities of virtually all industrial plants in the United States and Canada.

PEXOL* FORTIFIED SIZE

NOW AVAILABLE AT

- EASIER TO HANDLE
- EASIER TO HEAT
- EASIER TO PUMP
- CUTS FREIGHT COSTS

Now, for the first time, a fortified rosin size containing 77% solids, instead of 70%, is available to the paper industry. This higher solids Pexol offers additional advantages of greater ease in handling and in use. Pexol's efficiency in lowering size costs for every ton of paper or board produced is even higher than before, because of increased freight saving.

Mills everywhere have testified to the substantial annual savings effected with 70% solids Pexol. Get your share of the greater savings possible with the new 77% solids Pexol fortified size.

SERVING YOU BETTER · THRU BETTER SERVICE ·

*TRADE MARK

Paper Makers Chemical Dept., HERCULES POWDER COMPANY INCORPORATED 962 King Street, Wilmington 99, Del.

SIZING MATERIALS AND CHEMICALS FOR PAPER

PP52-7

PEOPLE

A. CARSWELL, was elected to a vacancy on the board of directors of St. Regis Paper Co. Mr. Carswell, a vice-president and general sales manager of the company's Multiwall Bag Division, joined St. Regis in 1928 and was named a vice-president in 1949.

CECIL L. HESS, 29-year-old graduate of the Institute of Paper Chemistry, Appleton, Wis. has been added to the research department of Minnesota and Ontario Paper Co. Mr. Hess' work will deal with pulp and by-product research. His present assignments include research into the sulphite pulping of jackpine and aspen.

C. M. MATHESON, for some years a director of subsidiary companies, has been elected a director of the Fraser Co., Ltd. He is general sales manager of Fraser Co., Ltd. and its subsidiary, Restigouche Co., Ltd.

CHARLES O. RADER, former general and sales manager of Brightwater Paper Co., has joined Spickelmier Products Co. as vice-president in charge of sales and advertising.

ALLAN B. MILHAM, new president of the Michigan Paper Co., Plainwell, Mich., was married September 23 at Coeur d'Alene, Idaho, to Mrs. Robert Gale Boyd, Spokane, Wash.

ELIS OLSSON, president and chairman of The Chesapeake Corp. of Virginia, has retired and is being succeeded by his son, **Sture G. Olsson,** as president.

The senior Olsson remains chairman, to which office he was elected upon his original retirement September 1, 1945. At that time M. C. McDonald came to West Point as president of the corporation. Mr. McDonald resigned January 1, 1952, and Elis Olsson was recalled by the Board of Directors to fill the vacancy.

Sture Olsson, who is 32, spent his summer vacations from school working in various parts of the pulp and paper manufacturing company at West Point. After his graduation from the engineering school of the University of Virginia in 1942, he became associated with Sperry Gyroscope Co. as service engineer in the Naval anti-aircraft equipment department. During World War II he served in Alaska and the Pacific as a lieutenant junior grade, in the Navy.

Upon his discharge in 1946, young Olsson returned to the company at West Point as plant engineer. In March, 1951, he was elected vice-president in charge of manufacturing. On January 1, 1952, he was elected executive vice-president and general manager, and at the annual stockholders' meeting March 18, 1952, he was elected a director of the corporation.

W. RIDGELY CHAPLINE, chief of the Forest Service's Division of Range Research, is retiring October 24 after 40 years of service.

Mr. Chapline has accepted a position with the Food and Agriculture Organization of the United Nations as a range consultant in the forestry division at Rome. He and Mrs. Chapline will depart from this country November 1. In his new position Mr. Chapline will deal with world-wide activities in the conservation, improvement and management of range lands.

R. R. EDWARDS has been named vice-president of Pacific Mills, Ltd. He will continue as resident manager of the company's plant at Ocean Falls, B. C. Mr. Edwards' progress with Pacific Mills has been rapid. He joined the company in 1947 as assistant resident manager at Ocean Falls and on January 1, 1951, was appointed resident manager.

WALTER V. WENTWORTH, vice-president of the Penobscot Chemical Fibre Co., Great Works, Maine, resigned from active duty with the company October 1, 1952. He has been connected with the organization for 54 years, and although actively retiring from business, he will continue to serve on the Board of Directors, having served as a Director since 1910, and will also continue as clerk of the corporation, which position he has filled since 1906.

MELVIN NOLAN, of Newton Falls, N. Y., will make a trip to Belgium, where he will assist in installation of a new machinery in a large Brussels area paper mill.

Mr. Nolan, superintendent of the coating plant in the Newton Falls Paper Mill, will travel to Belgium at the request of Charles A. Van Bael, head of the S. A. La Belgica Paper Co., of Turnhout near Brussels.

R. E. BUNDY, vice-president in charge of production, Fibreboard Products, Inc., has been appointed executive

vice-president. **M. E. Sanford,** general production manager, replaces Mr. Bundy as vice-president in charge of production.

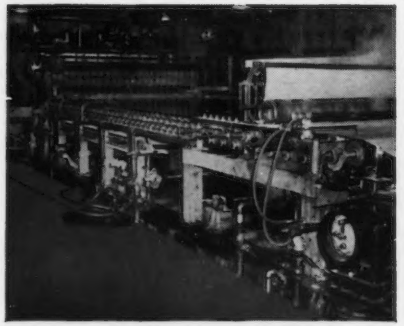
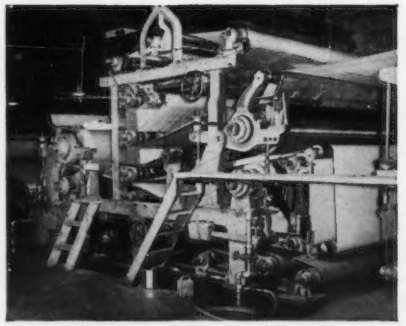
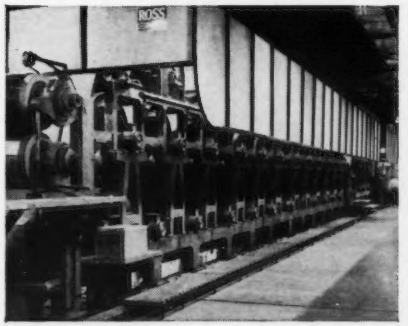
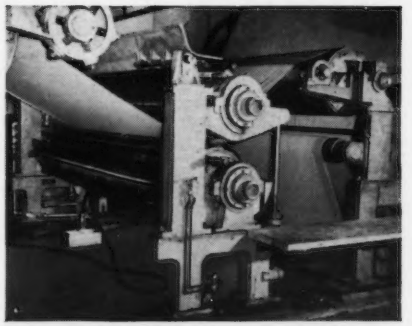
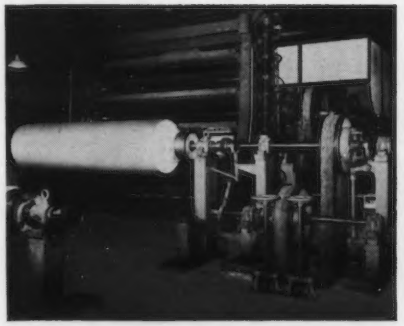
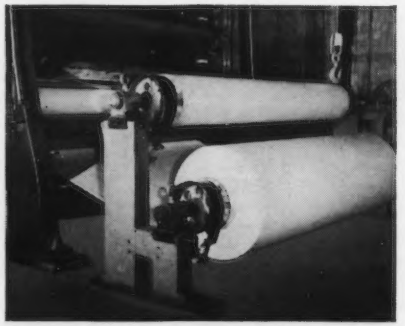
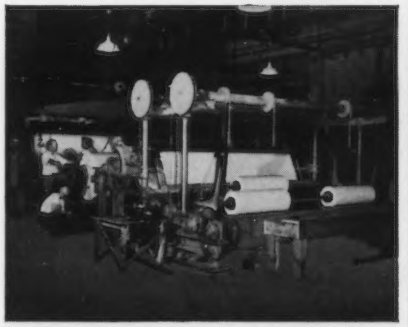
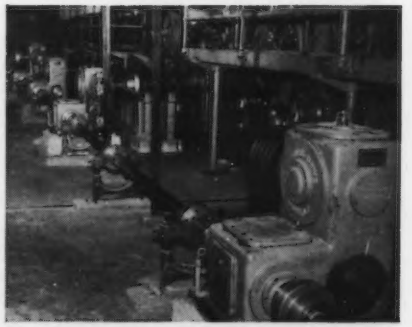
WILLIAM A. HANWAY, secretary of International Paper Co., is serving Girl Scouts of Greater New York in 1952 Annual Fund Drive for $650,000. Reception honoring 17 committees, launched the campaign at the Hotel Plaza, New York, October 8th.

DR. RAYMOND H. HARTIGAN has been appointed assistant director of Research on Mellon Institute's Executive Staff. In this capacity Dr. Hartigan will participate in the management of activities of the organization.

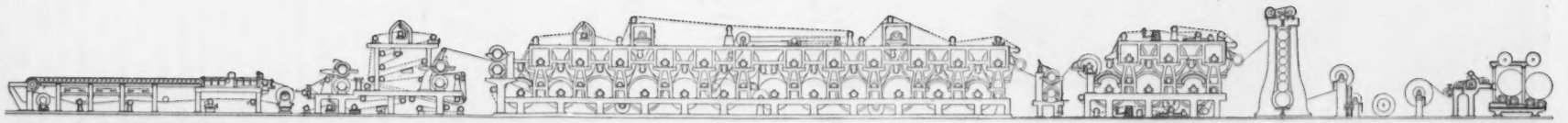
Dr. Hartigan's major training and experience have been in the field of organic chemistry. He is a specialist on the organic compounds of nitrogen and sulfur, including cyanogen and thiocyanogen derivatives. He has contributed to the literature of that division of chemistry and has also had issued to him a number of patents relating to the manufacture of cyanogen compounds and melamine.

JOSEPH B. FAGOT, placement manager for Marathon Corp., where he has been employed for the last eight years, has accepted a position as director of industrial relations for Omar, Inc. He came to Marathon as assistant director of industrial relations for the converting division of the company.

R. H. R. YOUNG, Vancouver, B. C., has been named assistant to the vice-president of manufacturing with the Crown Zellerbach Corp., San Francisco.

Latest Moore & White Fourdrinier machine with 136″ wire operating on specialty grades at Hopper Paper Co., Taylorville, Ill. Above views show various machine sections and Moore & White Syco-type machine drive.



The MOORE & WHITE Company 15TH STREET AND LEHIGH AVENUE PHILADELPHIA 32 PA. • CUSTOM-BUILT MACHINES FOR PAPER MAKERS

Judd and Detweiler, Inc., Washington, D. C. D. J. Andella, production chief of National Geographic Magazine, checking over a page of National Geographic covers that have just come off the press while Philip Goodall, rotary pressroom foreman, looks on.

Multicolor Letterpress Printing* Developments

By D. J. Andella, Printing Production Quality Control,
The National Geographic Magazine, Washington, D. C.

Facts concerning a multitude of paper developments, accomplished during the past 25 years, have enabled many a printer or publisher to do a better job, more economically, with increased quantity in a given period of production time.

If we turn back the pages of time to this world of about 25 years ago, we find that the terrific improvements in color photography are forcing a natural interesting appeal in the public's eye. This appreciation of color illustrations by the consumer of printing challenged the advertisers to include more color in their promotional programs. Full-color reproductions of a great variety of products immediately created great buying power, and such appeals brought great increases in sales. Thus, it may be noted that low cost and ready availability of color copy, that is, color transparencies, along with the tremendously increased interest of color by these color-conscious buyers of printing, motivated the need for greater color printing production presses.

In the following years, we find that the printers' demands for greater color printing production capacities were met by newly designed machinery and suitable materials to be properly employed thereupon. From single-color process printing, through the stages of 2-color work, 4-color sheet-fed presses, and finally reaching our present era of the high-speed, multicolor web-fed printing, each year new reproduction heights were achieved. All this could not have been possible without the great concentrated effort by manufacturers of equipment and material.

Yes, it seems to me that we, the printers, are obligated to all of these manufacturers in the printing industry and its allied trades for helping us meet the demands of our buying public.

Of these many printers' demands, I feel the most important was, and still is, improvement in coated paper printability. With each successive speed increase in newly designed printing presses came new challenges for the coated papers. The printers' demand was coated papers that would permit four films of color inks to be properly "trapped" onto its surface in successively split seconds, then penetrate sufficiently to bind the image and dry reasonably fast, yet retain fairly brilliant body color, and all this with good color register. These and many more paper characteristic demands of the printer were met by the manufacturers of coated paper.

Now, I don't mention these remarks to flatter you. They are statements of fact that prove how printers or publishers look to you for improvements in coated paper printability, just as anxiously as you look to the printing industry for increased sales.

Constantly increasing costs of labor, material, and equipment, plus the ever growing competition from other advertising mediums, are presently showing a strain on the printing industry. The improvement pace of the past 25 years must continue with emphasis on quality, along with the technological successes for increased production quantity — the need for both of these has always been and still is great.

Let us assume that a paper mill is producing a certain tonnage of coated paper by a particular team of people, material, equipment, etc., in a given period of time, and then by some change in this team or method they succeed in doubling the tonnage output of product. This may not necessarily mean that the product of the doubled tonnage is better than, or as good as, the previously manufactured paper, in fact, it may not be quite as good, but the point remains that some definite progress in manufacturing this paper has been made. It is very possible that the new method of production could reduce the cost of this paper. The reduction in cost could make it possible for more people to enjoy its ultimate and result, also another point for progress. However, if it is not an improvement in the actual quality of paper surface for printability, then we cannot so designate it.

What I am really trying to explain is the difference between quality and quantity improvements. An improvement that results in quantity can usually be simply noted by figures, whereas an improvement in quality is a rather abstract matter even with conclusions from the best of tests. Quality being defined as a certain degree of perfection as compared with a pre-determined standard, it therefore has a variable aspect. The quality of a product may then be judged, realized, or described as either "higher" or "lower" than a specified degree of perfection.

Methods of applying tests to determine whether or not a particular product is within the specified limits of quality variability are not usually absolute measurements. However, for all practical purposes, this production function of inspecting and testing

throughout the process of manufacturing certainly does help maintain standards of quality in daily production.

A papermaker passes judgment on his product by certain predetermined standards concerning such visible or tangible qualities as weight, finish, opacity, color, etc. The final and proving test of that paper's printability takes place in some printing process.

Subject Defined

At this point, realizing that discussing the problem of quality vs. quantity in any manufacturing process is a most difficult task, I decided my remarks should be restricted to the operational phases of multi-color letterpress printing as I know it to be employed in the production of the National Geographic Magazine. From these experiences I could then draw my points of discussion related to printability of coated papers.

I propose to present the printers' objective in relation to what is expected of paper, plates, inks, machinery, and the craftsmen's techniques for fine reproduction of color illustrations.

Printing Processes

As you may know, full-color reproductions of copy, art drawings or color transparencies may be printed in large quantities with speed by any one of the three major printing processes: namely, letterpress, offset, or gravure.

All three methods are based on the principle that the design or image must be composed of, or reduced to, a series of dots forming lines that stand apart in various sizes to form tone values from extreme pin-point highlight dots, through the middle gray tones, onto the dark solid shadow tones. The transfer of inks from these various sized dots onto a paper surface completes the printing impression to reproduce an illustration.

We also know that this paper surface may or may not be coated, depending on the process employed and the nature of subject matter. However, aside from newsprint, some form of coated paper is employed in the printing industry in greater quantities than any other paper. This fact immediately makes coating a very important part of papermaking.

Although the letterpress process is the greatest consumer of coated papers, use of special manufactured coated papers for the offset process has greatly improved quality of color reproductions. Publishers employ all three processes successfully in publications. Each process requires the use of distinctive equipment, material, and techniques which when combined produce an individual character. Furthermore, each process enjoys certain advantages, so that one must evaluate the merits of a particular process with that of another, only in relation to a specified copy or printing requirement. The possible results in reproductions by the three different processes are very broad, but not unlimited. It is very probable that any collection of printers' copy could be reproduced in exactness if each were printed separately by the most suitable method, without regard for quantity, time, and cost, but, unfortunately, color printing is not thus reproduced.

D. J. Andella giving a last minute check to the National Geographic Magazine before it is wrapped and mailed out. Mr. Clarence Russell, foreman of the National Geographic bindery at Judd and Detweiler, is holding a copy of the National Geographic for Mr. Andella. In the background is a continuous automatic trimmer.

Evaluation and Analysis of Printing Results

Ordinarily, publication forms are assembled in large, mixed groupings, all color illustrations being inked en masse, the flow of inks being necessarily set for the best average color requirement of each column on press sheet.

Now let us pause for a moment to analyze the following comparison before we continue our evaluation of printing results.

1. An original art subject may cost hundreds or thousands of dollars, a full-color reproduction of same may cost but a few cents each.

2. It may have taken the artist days or months to complete the drawing, yet the reproduction is made on press in the matter of a few seconds.

3. Whereas the artist may have employed a great variety of color pigments and mixed them in many combinations at will, the printer's reproduction is made with only the three process colors, yellow, red, blue, and black.

4. Whereas the art work or color transparency is accomplished in continuous tone, the printer is restricted to work in halftone.

5. While the artist can splash brilliant colors upon the canvas, the printer must restrict his flow of ink for fear that too much color might cause fill-up of dot values or offset of images.

6. Finally, we note that the original art work is usually accomplished on a very fine paper or canvas cloth, while the reproduction is made on some coated paper.

Thus, it may be noted that the printer, by his limitations in control of equipment, material, and techniques, has greater restrictions forced upon him than did the artist in creating the original copy.

Yet, despite all these problems, amazingly faithful reproductions can be achieved in the various printing processes of today.

The foundation of such successful color reproduction is based on the employment of highly specified quality material to be properly manipulated by skilled men on carefully regulated machinery. This does not necessarily mean that the finest halftone combined

with the best ink money can buy will print well on a particularly fine grade of coated paper. Rather, it means that the proper combination of these basic elements must be employed. Moreover, each member of your production team must have the will or desire to create such quality printing. Sometimes, even with proper material and top craftsmen, functional failures of equipment prevent the production of quality work. As one of my college professors would say, "There are too many acts of God and works of the Devil to permit the assurance of a perfect printing."

Yes, the old adage "A chain is as strong as its weakest link" applies well in the manufacture of fine printing, as it does in papermaking. The relationship of material to machinery and techniques is very critical. The failure of performance in any one of these directly affects the resulting quality of printing.

An examination of the various component parts of printing operations must be analyzed separately, and in relation to their whole, before one can fully understand and appreciate what is involved in the manufacture of quality color printing.

The first essential requirement for quality printing is good copy. Select and prepare your copy to meet your printing requirements, keeping in mind choice of process, paper, plates, inks, to be used for desired effect.

Black and White

1. Photographs or art work should be about 25 percent larger in size than the final reproduction.

2. Photographic prints should be made on glossy paper and properly mounted on a cardboard for body strength.

3. Select photographic prints which are in very sharp focus.

4. It is most desirable that the photographic prints contain a contrasty gradation of tone values from deep shadow blacks to extreme white highlight.

Color

Some years ago about 90 percent of all printers' copy was art work and only about 10 percent of this was color transparencies. Today, that situation is almost reversed. The buyer of printing today is more color conscious than ever before. The terrific advancements of color photography in the past 15 years has made color copy comparatively low in cost and readily available for printing reproduction.

1. In selecting color transparencies, avoid those which are too thin or too heavy in color.

2. Above all, be sure that each transparency is perfectly sharp in focus.

3. Practically any color transparency that can be made into a successful color print can be used for printing reproduction.

4. Transparencies can be color-corrected by the Macbeth Chromocritic Machine with additions or subtractions of daylight and artificial lighting. This, plus any other correction from original copy, should always be noted to the engraver before plate-making, not after first proofs are submitted. Give the engraver the finest of copy and you will find that he can very reasonably reproduce the picture on metal.

Photo-engraving

The next step in our story of color reproduction is photo-engraving. Of the two distinctly different methods employed in the making of color engravings, the indirect method is steadily becoming more prominent in usage over the direct method. In fact, some color subjects are most difficult to reproduce with photographic accuracy by depending entirely on hand correction methods. Such copy as oriental rugs, complicated varicolored fabric patterns, multi-colored flower garden scenes, or any of a variety of intricate color designs or detail are by far best produced by some indirect or masking method.

In producing color engravings, much time is spent in color correcting because of all the imperfections involved in the various steps of reproduction. For example, sometimes the original transparency is not photographically perfect in color balance so an exact duplication is not desired. The color filters used in making the color separation negatives are not true colors, nor are the photographic steps of exposing, developing, printing, etc., in perfect color control. The greatest part of producing a set of color plates is dependent upon the human element, and we all know that is not too reliable. Finally, all these somewhat natural color failures must be proved on a press with the imperfect colors of process printing inks, not to forget the color variations of so-called white papers that add to our problem.

The indirect method of color engraving affords greater manipulations from camera to final etching because of its mechanical masking medium. Also, it helps eliminate much of the guess work normally made by personnel. Even before the images are engraved upon the metal, the masking method permits the camera department to better see, study, and photographically color correct each color separation to insure greater fidelity. Color can be more skillfully strengthened or weakened by the indirect masking medium whereby such corrections are made on the continuous tone images, rather than on a few small dots of copper. The successful enlargement or reduction of such small halftone dot structure is limited to the ability of the craftsman's hand manipulating certain metallic tools.

To insure quality color printing, let us start by getting a good set of color engravings with proper balance of

John Davis, Jr., left, in charge of all National Geographic printing at Judd and Detweiler's plant, and D. J. Andella, production chief for National Geographic Magazine, looking over color sheets just off the press. Mr. Andella personally checks all color production for the Magazine.

color values affording a high degree of photographic quality in reproduction.

Of course, a printer is also concerned about the mechanical aspects of color engravings. He requires proper plate depth, or what's more important, clean areas between the dot surfaces or walls of dot structure. Furthermore, he expects the plates to have smooth dot surfaces (not rounded off), no undercutting of dots, and undercolor sufficiently reduced for proper trapping of inks. This takes us to the subject of color proving of engravings.

Color Proving

Color engravings must be made with the ultimate printed result in mind. The engraver should contact the printer to arrange for getting some of the paper and inks for proofing. The two should get together on the matters of type of press to be used in final production, rotation of inks, in line arrangements of color pages, etc., to insure certain similar standards for the job.

The photoengraver's responsibility does not end until the printed result is in the hands of the satisfied customer. All too often the printed result falls short of the engraver's color proofs in the estimation of the buyer and this creates an undesirable situation for all concerned.

Where plates are concerned, most of the confusion that arises between the engraver and the printer is caused by lack of cooperation to proof the plates in such a manner that the printer can duplicate them with satisfactory results. Usually, the engravings are not mechanically deficient.

What good is a proving press and the proofs it produces, unless they fulfill their value for purpose intended? A good engraver's proof should be a true indication of the final printed result, or what we term a practical match of proofs.

Actually, the important fact about this matter of engraver and printer is to design some system, through experimental efforts, whereby the engraver must do certain predetermined things in his color proving which makes it possible for the printer to get a good match on his production press. This experimentation may involve rearrangement of printing impression, make-ready, type of rollers, new formulation of color inks, etc. The cooperation of engraver and printer to standardize proving procedures can help make the necessary correlation for matching color proofs and thereby satisfy everyone.

We have developed such a system for proving our color text pages with our engraver. The identical color pages in line are proved with the same paper and color inks as employed by our printer, with some allowance being made for difference in speed of proving as against that of production press.

I might add that both we and our engravers have identical projection systems designed for viewing color transparencies while color correcting proofs under uniform light conditions.

Electrotypes

With color proofs completely corrected, we now turn to the method of making duplicate plates for the printing production press.

As you may know, due to long press runs, particularly in publication printing, electrotype plates are made from the original color engravings. These are used for printing production, thus safeguarding the originals.

Briefly, by use of heat and pressure, the image of the original is compressed into a sheet of "vinylite" plastic which then becomes the molding medium. After a thin film of silver solution is sprayed over the face of the mold to make the surface electro-conductive, a coating of nickel followed by another thin film of copper is deposited into the plastic mold. We now have what is called a "Shell" which is then "backed up" with molten metal to give the plate body. Upon cooling, the electro is then finished by hand and machine operations of shaving, routing, bevelling, curving, etc. Isn't it amazing that after all this work of forced pressures, heating, cooling, electrolytic depositing, shaving, curving, etc., the electrotyper can produce a set of color plates containing the same color tone values of the original, and all this with good register of each color plate.

Of greater importance to the papermaker and the printer is the surface smoothness of these electrotypes, and this leads me to the next phase in printing production, usually known as plate and press makeready.

Make-ready

In order to print clean, sharply-registered color tone values, the pressroom must have precision-made electros to insure uniform printing impression. What good is a fine, uniformly-coated paper surface, if the surface of the plate to be contacted is not equally true? In other words, if all electros were precision-made, little or no makeready would be required.

By increasing or diminishing the height or thickness of certain areas of an electro, a printer's makeready serves to eliminate the inequalities out of the plate surface, in order that the entire plate may receive a more uniform printing impression. In addition, it helps to provide wear protection to the particularly extreme highlight tones.

Correct makeready procedure requires a complete understanding of the relationship of height of printing plates to press backing. That is: plates must be underlaid with makeready to conform to a pre-determined thickness

Here D. J. Andella checks color proofs against progressives in the editorial offices of the Magazine. Overhead is a bank of carefully controlled daylight fluorescent tubes behind ground glass for diffusion. A similar arrangement, even to the exact distance from lights to work table, is maintained at Beck Engraving Co.'s plant in Philadelphia. Behind and over the head of Herbert S. Wilburn, one of National Geographic's picture editors, may be seen a small projection box in which slides of the original color films are projected for comparison.

standard, in relation to the thickness of press packing.

Prior to makeready, the bearers of both plate and packing cylinders should be checked to insure their making perfect contact with each other. These bearers serve as a guide for gauging thickness of press plates as well as packing thickness of impression cylinder, in order that the proper printing travel line may be established for a particular printing press.

Theoretically, the printing travel line is an invisible circle that the sheet follows in the act of being printed. This imaginary printing travel line is synchronized to carry the sheet at an established speed through the point of contact between plate and impression cylinders. The plate and impression cylinders each represent circles having a specific circumference ratio to each other when in the act of printing. When the point of printing contact is either above or below the line of travel, one of the circles would then be traveling on a greater or smaller circumference than the other. One surface traveling faster than the other causes friction which not only distorts halftone structure of images, but eventually forces fast, uneven wearing of press plates.

Pre-Make-ready Plate Treatment

To help overcome the problem of plate wear due to long press runs, publication printers usually employ some form of pre-make-ready plate treatment.

Again briefly, a "male" and a "female" make-ready is placed on the face and back of an electro in register with the image. Then with application of heat and pressure, the make-ready treatment is compressed into the front and back of the plate. The face make-ready remains in its position until final shave on back of electro is made.

Such make-ready treatment of electros permits a more uniform press run with little, if any, visible plate wear, thereby helping maintain greater separation in detail of color tone values.

With such mechanical accuracy of press cylinder settings, correct underlaying of plates and packing, and effective makeready applied, printing is then reduced to the simple operation of transferring an ink film from one precision-smooth surface to another, provided, of course, the paper surface is equally smooth.

But before getting on to the act of printing on paper, ink should be our next element for discussion.

Inks

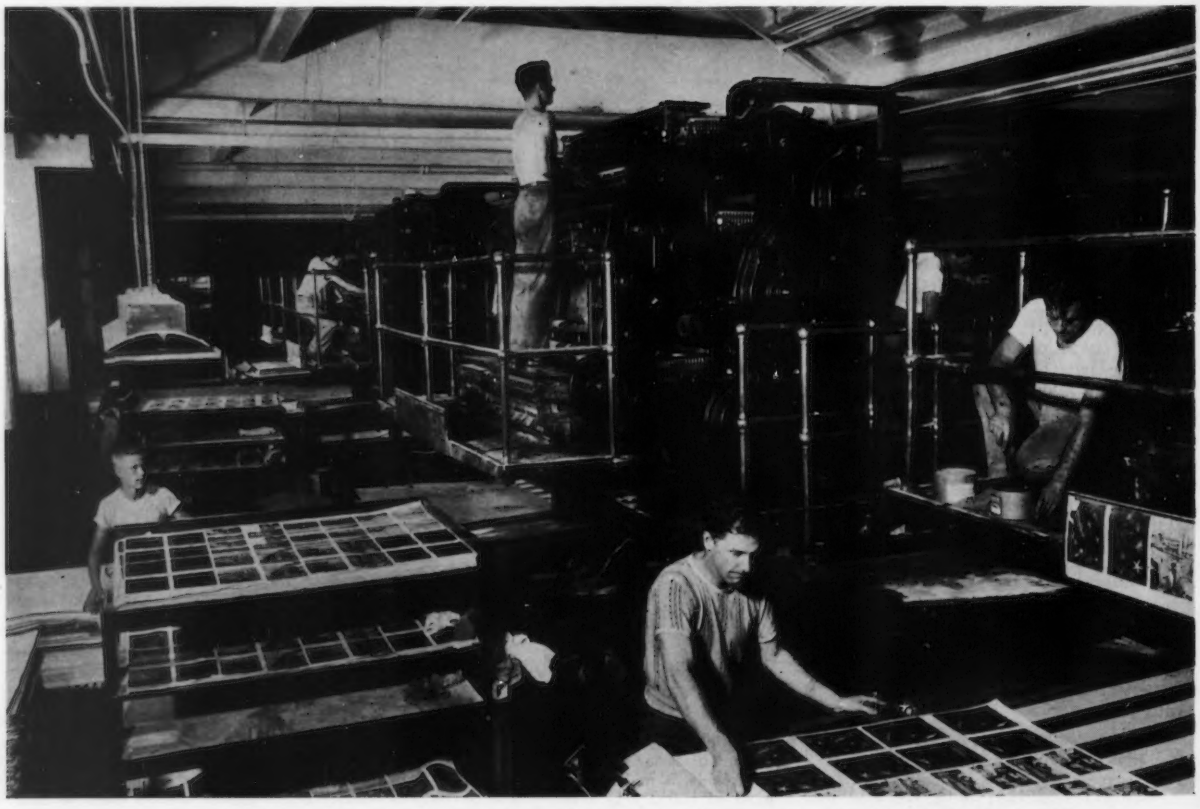
Fundamentally, an ink is composed of two elements: a color pigment and a vehicle. The function of the pigment is to provide the necessary body and color strength to the image on paper. The vehicles — varnishes, oils, etc. — serve to carry the pigments through the press rollers, onto the printing plates, and eventual transfer to paper surface. They also help bind the pigment to the paper surface, and through their ability to oxidize or harden, they serve to aid in drying of ink.

In any printing ink, the adhesion of the ink for the rollers, plates, and paper must be greater than the cohesional forces present in the ink, otherwise it would not distribute properly.

In printing action, the ink film is ruptured or pulled apart in little mountain ridges which finally break at their narrowest point. Approximately fifty percent of the ink is then transferred from plate to paper.

The physical properties of an ink which influence its printing characteristics most greatly are its viscosity and thixotropy value factors. Viscosity in common terms may be called the fluidity of an ink, while thixotropy may be thought of as a "brake" on the fluidity of the ink, because this property permits the ink to "gel" in the form of a transferred halftone half on the paper surface.

Printing four colors wet requires color inks that have the proper "tack" balance in color rotation so that when one ink is superimposed over another it must make a satisfactory transfer, instead of trying to lift some of the color off the paper. The first color printed, usually yellow, must be the tackiest, with each succeeding color softer than the preceding one.



Battery of multicolor presses used to print the National Geographic Magazine at the plant of Judd & Detweiler, Inc.

One for every place— one place to get them all

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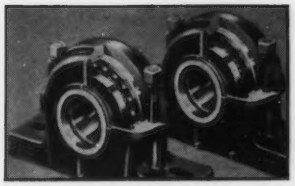
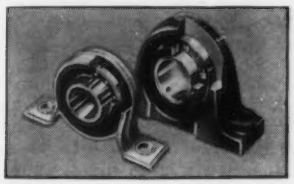
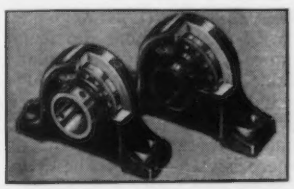


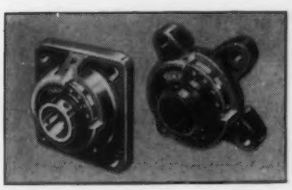
SERIES SAF—Ball or roller bearing pillow blocks, with Triple-Seal rings which keep dirt out, lubricant in. Wide range of load-carrying capacities.



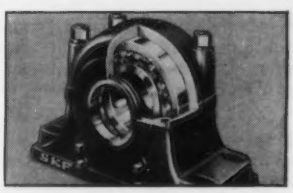
SERIES SES and SY—Unit ball bearing pillow blocks. The SES is mounted in rubber, prevents transmission of noise. The SY permits liberal misalignment—is effectively sealed by famous SKF Red Seal.



SERIES SUS and SUA—Unit ball bearing pillow blocks (SUAR equipped with spherical roller bearings). Ring seals exclude dirt. The SUA is an adapter-type mounting.



SERIES FUS and FUA—Ball bearing flanged unit having same features as SUS and SUA pillow blocks. (FUAR equipped with spherical roller bearings).



SERIES SDAF—Exceptionally sturdy construction for unusual shock and heavy thrust loads. Equipped with Triple-Seal rings for bearing protection.

Paper Printability

Having now discussed briefly points on copy, plates, inks, press techniques, and equipment, we are ready to start printing in accordance with printing specifications—the principal commodity in these printing specifications being paper printability.

A printer's prime concern is almost entirely with paper printability. He must rely on quality coated paper surfaces that will have the proper affinity to reproduce with exactitude the images engraved on the color. plates. However, perfectly balanced the specific standards established for plates, inks, proving, make-ready, equipment regulation, etc., in each instance, they must all be adjusted to conform with the *least changeable* and *most important factor of printing production—printability of paper to be employed.* All other factors involved in printing production are more easily adjusted than are the qualities of paper. Nothing practical can be done to change printability of paper after it is made and coated.

When a job is not printing well, the ink maker is called upon for first consultation and he usually manages to change the working properties of the inks so that the printer may satisfactorily print on that particular load of paper. Sometimes the plates are at fault and even then the engraver can usually alter the halftone structure to improve the printing. But, if the coated surface of the paper is at fault. there isn't a thing to be done that will change the paper printability.

If we could make a high-speed motion film at a speed of about 3,000 frames per second while exploding about 35 flash bulbs, we would probably see in slow motion just what transpires when a halftone dot about the size of a dime comes into contact with a coated paper surface. As I see it, the dot must hit either a fiber, the pigment filler, or perhaps a hole caused by a coating bubble burst.

If the fiber isn't well bound, it may be lifted from the paper. Or, if the dot hits a highly polished or thick filler section, it may not properly transfer its ink; but rather slide it around a bit. Then too, this dot could hit the dull or thin area and become quickly dispersed through the coating and into the body stock to give a flat loss of detail appearance. Of course, should it perchance hit the hole or valley on surface, the result is a very weak dot, if any. When a coated paper surface contains these faults and some others, there is not a thing that can be done to overcome this condition.

For example, when a very fine halftone screen is employed in printing on a hard surface coated paper, the ink cannot sufficiently penetrate the surface. Improper transfer of ink from plate causes excessive ink to accumulate on the dot structure, finally falling into the depths between dot surfaces. These nonprinting areas fill-up and actually print, thus resulting in loss of detail and distortion of color tone values.

Advantages of Coating

1. To fill in the inequalities of raw stock surface.

2. Mineral matter of coating permits better transfer and absorption of ink; more easily wetted by oily inks.

3. Uniform porosity of coating surface makes for smoother deposit of inks.

4. Clays of coating give greater brightness to illustrations.

Papermaking, like any other manufacturing process, has its quality limitations. Improvement of one quality characteristic is often accomplished with sacrifice of some other quality factor. Usually, the main reason for quality compromise is competitive costs in production process.

Increase density of base stock by beating affects ink receptivity of coating.

With increase in moisture content of base paper, wax number decreases.

Coating formulations can show increase in Mullen test, but decrease in tear and fold tests.

High calendering for smoother finish subdues brightness and reduces opacity.

The brighter the sheet, the less quality in permanency.

In order to effect quality printing, coated paper must be manufactured to meet certain standard specifications as to surface, thickness, resiliency, color, finish, brightness, opacity, permanency, receptivity, moisture content, and other physical property characteristics desired. A printer's commanding requirements of a quality coated paper for high grade color reproduction may be listed as follows:

Like the first requirement of a truly great artist, coated paper must be made to perform with great uniformity. The *first* requirement is *consistent performance* that will permit the printer to make an economical press run, faithfully reproducing the desired quality and quantity of copy. This requirement is also desired in each of the following characteristics.

The *second* requirement would be *uniformity in paper formation.* Paper is bound to be two-sided because of the filtering action which takes place in its manufacture. Theoretically, more filler is left on top than on the bottom. Likewise, the wire and felt side affect the wetness of paper stock. Usually, the paper fibers are not evenly distributed. All of these factors affect uniformity in formation.

An "open" or "wild" formation results in spotted variations of thick and thin or hard and soft small areas. It is almost impossible for a printer's make-ready to overcome these paper defects because the thick spots act as bearers upon contact with plates and therefore reduce printing pressure on the thin spots. In a similar manner, the inks are unevenly transferred from plate because of uneven absorption in paper surface. That is, the soft spots accept more ink than the hard ones. The result is inferior printing with a mottled or "spotty" appearance.

A "closed" or uniform formation of raw paper stock is the start of making quality coated paper.

Third in importance is a coated paper characteristic known as *surface smoothness.* This surface quality is usually the printer's greatest demand. A paper uniformly smooth of surface across the entire web or sheet, and consistently so, greatly aids the reproduction of illustration.

Requirement number *four* is *ink receptivity* or coated surface. It is the ability of a coated paper to absorb a certain percentage of the transferred inks just enough to bind the pigment into the stock, then "set" fast enough so as not to completely penetrate into paper. Paper surface too absorbent to ink causes loss of brilliant color tone values and distorts sharpness of detail.

Good *surface strength* is the *fifth* requirement of fine coated paper. Especially in multicolor printing, where, roughly, the same area of a paper is contacted four different times by the color plates in the matter of a few split seconds, surface strength or resistance to picking of coating is of great importance. If the first color imprinted, usually yellow, picks or breaks the coating surface, then each succeeding color not only contacts a torn surface, but each impression digs out more paper or coating particles which sometimes remain on the printing plates or travel back through the rollers and dirty the ink fountains.

My *sixth* requirement is *uniform thickness* of paper. Across the sheet, and sheet to sheet, or roll to roll, uniformity of thickness is of utmost importance to fine printing, especially in long press runs at high speeds where, in a few minutes, a weakness in thickness of paper may mean many badly printed copies.

Deficiency in *paper opacity* is *my seventh* requirement. Such a lack of opacity is chiefly responsible for what is called "show-through" of printed matter on the reverse side of the sheet. Usually, I am told, this is caused by improper calendering of coating. Paper lacking quality of good opacity causes loss of contrasty detail, particularly distracting in highlight areas, tones down brilliancy of color values reproduced, resulting in a generally dirty appearance of printing.

Coating surface brightness is paper's number *eight* requirement. A brightly reflectant white paper surface is very desirable because it helps give lustrously brilliant tones to color values of reproductions, and also permits brighter highlight values to appear in illustrations.

Paper color takes its place as requirement number *nine.* Color variations of paper have a definite effect on color reproductions by accentuating the "warm" or "cold" tones. Off red,

white, or blue paper color tints may add to or detract from printed results by increasing or decreasing contrast.

Number ten requirement is the quality of paper known as *resiliency.* Fine quality coated paper must not be calendered beyond the elastic limit of its compressability. For good printing impression, coated paper should have "cushion" in body so as to be able to spring back when compressed by printing impression.

My *eleventh* requirement for fine paper would be *balanced* moisture content. Paper, being hygroscopic, is susceptible to variations of expansion and contraction by atmospheric changes in temperatures and humidity. When paper is so effected, the pressman has great difficulty in accomplishing accurate presswork. Usually, the curl or waves in a paper stock cannot be ironed out by the brush systems on presses, and they result in one of several faults, such as "blurring," creasing or wrinkling, and running color out of register—they may even fold over to cause plate batters. Bindery operations, such as folding, stitching, etc., often suffer from brittle paper containing improper moisture content.

My final requirement for quality paper is *a high degree of permanency in color and body stock.* In a publication such as The National Geographic Magazine, volumes of which are bound and kept for many years of reference in members' libraries, paper color and strength must be such that they will not appreciably change physically in a period of many years.

Briefly, with management carefully planning to obtain the proper combination of basic elements necessary for quality printing production, and with plant supervisors technically regulating printing equipment for precision performance, along with the craftsman's skillful manipulation of operational techniques, fine color reproduction can be successfully accomplished. Above all, there must exist within each of these key personnel the will or desire to produce quality printing.

Research and Development

Before closing, I would like to make a few remarks about research developments in the printing and allied industries.

Generally speaking, the printers have not been very wise in their responsibilities for co-ordinated research efforts to improve methods of printing. For many years, printing research has limped along unmindful of the new theories being developed in various other fields of endeavor, and not suspecting their many possible applications for improvement of methods in reproduction processes.

Since the end of World War II, organized printing research, through Printing Industry of America, has become alive and eager again to study, plan, and co-ordinate printing research developments to help the printer overcome some of his problems.

At present, in the printing and allied industries, there is a constant search for faster and cheaper methods to reproduce quality printing. Many new inventions have been developed in the past few years, but only a few of them are really ready for commercial use. Nevertheless, the full effects of many new developments are just beginning to be felt.

Photographic Copy

It is generally believed that manufacturers of cameras, films, and accessory photographic equipment and supplies have, through concentrated research efforts, improved their products to such a high degree of perfection in performance that we can truthfully say that top quality copy is now going into the hands of the plate makers.

Photo-composition

In the past few years, the printing industry has witnessed the development of photo-composing machines which produce justified composition in "galley" form directly on film or photographic paper in one operation. Justifying typewriters have also found their place in the manufacture of printing.

Photo-engraving

In the making of process color plates, electronic scanning machines are under development, one of which has been in commercial use for about a year. With further development, this instrument will greatly aid the engraver to achieve a more photographic reproduction of color transparencies or art subjects more quickly and therefore at reduced cost. Newly designed high-speed proof presses now permit the printer to get a better match of color copy.

Electrotypes

Plastic molds, temperature-controlled electroplating tanks, and chromium-faced electrotypes are now providing the printer with a better printing plate that will serve longer hours in press runs.

Inks

The ink manufacturers, with the aid of their material suppliers, have kept in stride with other developments of greater press speeds and new paper surfaces by providing inks with quicker drying qualities, non-scratching surfaces, truer color shades for process work, proper "trapping" qualities, and many other features of transfer and printing. The development of gloss inks has greatly aided in giving body color to illustrations printed on coated papers.

Make-ready

It may not be long before the make-ready treatment is successfully placed into the original copper engraving by means of a photographic method, thus eliminating separate treatment of each press plate, and permitting make-ready to be administered in small highlight and shadow areas heretofore impossible.

Coated Papers

Laboratories of paper mills have been constantly guiding their technical personnel in the improvement of quality printing papers. By discussing paper printability problems with their printers, quality control systems have been designed in the mills to provide improved coated papers with consistent performance. Papermakers have been very co-operative in helping the printer overcome his paper problems. I feel certain that such an understanding can and will continue to achieve even greater accomplishments in papermaking and printing.

With greater speeds and new methods of multiple coated papers in sight, the future of high-speed multicolor printing looks very bright, indeed. Let us continue with our constructive thoughts to improve paper printability through fine coating applications.

The consumer has become a very critical buyer of color printing. Let us do our part to meet his challenge, as it has been met in the past.

* Presented at the co-sponsored meeting of The Kalamazoo Valley Section of TAPPI and the Michigan Division of the American Pulp and Paper Mill Supts. Assn. in Kalamazoo, Mich.

LITERATURE

Annual Report 1951, National Bureau of Standards. (Publication 204) Summarizes scientific and engineering investigations conducted by NBS during fiscal year; provides general description of work done in 15 scientific and technical divisions, also gives specific examples of significant projects. Price 50c, 105 p., 28 illustrations. Government Printing Office, Washington 25, D. C.

Automatic Voltage Stabilizers. (Booklet GEA-5754) Provides illustrated sales copy, diagrams, specifications, operation principles and construction. General Electric Co., 1 River Road, Schenectady 5, N. Y.

Clevelands—At Work. (Booklet) Illustrated sales copy on performance of Worm Gear Speed Reducer. Cleveland Worm & Gear Co., 3249-59 East 80th street, Cleveland 4, Ohio.

Conax Bare-Wire Wire Thermocouples Packing Glands. (Bulletin TC-1) In illustrated sales copy of complete line, describes principle of sealing two or more bare wires at pressure from full vacuum to 15,000 p.s.i. and sealing applications. Conax Corp., 4515 Main street, Buffalo 21, N. Y.

Handy Guide to Selection of Centrifugal Pumps. (Bulletin 52C6059J) Contains sales copy, detailed information chart,

head capacity table for all types, including Types PW and TV for paper stock. Allis-Chalmers Mfg. Co., 994 S. 70th street, Milwaukee, Wis.

Tachometer Bulletin. (Bulletin S1402) Features electronic Dynamaster Recording Unit, and covers entire line with engineering information and complete specifications on magnetos, magneto drives, methods of application, reproductions of actual chart records and dimensions. Bristol Co., Waterbury 91, Conn.

Unit Measuring Systems. (Instrumentation Data Sheet 10.7-1) Describes Brown-Cambridge system for automatic recording and control of pH—Hydrogen Ion Concentration; includes discussion of measuring system components adjustments for operation; also, variations in recording and control systems for electric or pneumatic modes of control, and single or multi-point recording. Minneapolis-Honeywell Regulator Co., Brown Instruments Div., Wayne & Windrim avenues, Philadelphia 44, Pa.

Westinghouse Compressor Bulletin. (Bulletin DB 101-160) The inside story on CLS compressors and condensing units, includes technical data on two sizes, and line drawings with overall dimensions of both. Technical Publicity, Westinghouse Electric Corp., P. O. Box 2278, Pittsburgh 30, Pa.

Lange's Handbook of Chemistry — Eighth Edition. (Book) Primarily a compilation of physical data which the psysicist will find directly applicable to his field, the new edition is a library of chemical data which the chemist and chemical engineer will find indispensable in laboratory work and manufacturing. A thorough revision has been made of all material standing from the preceding seventh, and hundreds of changes in numerical values scattered throughout the book. Includes six new tables: Ionization Potentials of the Elements; Classification of Clay Minerals; Glossary of Inorganic Chemical Nomenclature; Titrimetric Indicators: (a) mixed; (b) oxidation - reduction; (c) fluorescent; Molar Equivalent of a Liter of Gas at Various Temperatures and Pressures; Density of Moist Air. Compiled and edited by Norbert Adolph Lange, Ph.D., member of the American Chemical Society, FAIC, assisted by Gordon M. Forker, B.S., Chemical Engineer, the book is divided into sections: Life and Fire Hazards; Chemical and Physical Properties of Classified Substances; Miscellaneous Tables of Specific Properties; Conversion Factors and Numerical Tables. 2014 p., fabricoid $7. Handbook Publishers, Inc., Sandusky, Ohio. Obtainable through *Paper Trade Journal.*

Forestry and Its Career Opportunities—First Edition. (Book) By Hardy L. Shirley, Dean and Professor of Forestry, Syracuse, N. Y. 467 pp. Price $6.50. One of The American Forestry Series, this book is designed especially for students who plan to follow forestry as a life career. Technical language and technical details which are provided in other books of the series are avoided. With a view to its value to teachers and businessmen as well as students, the historical background of forestry on a world-wide and nation-wide basis is sketched, also recent progress made in the United States and outlook for the future. Special attention is given to the world-wide scope of forestry as it affects practices in the U. S. Includes photographs, statistical tables, and schematics showing cellular structure of northern white pine and red gum. Published by McGraw-Hill Book Co., Inc., 330 West 42nd street, New York 36, N. Y. Available from *Paper Trade Journal.*

SUPPLIERS

STEIN, HALL & CO., INC., New York, announces the resignation of Oliver H. Clapp as vice-president and director.

MICHIGAN ALKALI division, Wyandotte Chemicals Corps., has announced that effective October 1., R. C. Leonard became product manager — caustic soda and chlorine; P. M. Bigley, product manager—soda ash, dry ice and bicarbonate of soda; R. K. Rigger, produce manager—synthetic detergents; and T. R. Boyle, administrative assistant to the vice-president Michigan Alkali division. All will be located in Wyandotte.

L. C. Reid

MICHIGAN ALKALI DIVISION, Wyandotte Chemicals Corp., has appointed L. C. Reid as manager of the Western District, headquartering in Chicago. He will assume his new positions after the first of the year.

R. H. Multhaup

M. W. KELLOGG CO., designers and builders of petroleum and chemical processing plants, has appointed Robert H. Multhaup as manager of the product engineering department. Mr. Multhaup will be in charge of the design and engineering of all fabricated products.

MORRIS MACHINE WORKS, Baldwinsville, N. Y., has named W. M. Mercer sales manager, and R. E. Jacoby is now Chief Engineer.

JAMES FLETT ORGANIZATION, INC. has appointed James A. Vaughn acting manager of their Boston branch office.

DU PONT CO. has consolidated the Boston and Providence sales organizations of the Dyes and Chemicals Division into a new organization to be known as the New England District. Robert R. Farwell and Harold L. Sager, manager and assistant manager respectively of the Providence District, will have the same positions in the new organization. The move is effective October 27, 1952.

Walter H. Zillessen and George H. Smith, formerly manager and assistant manager respectively of the Boston District, will continue as manager and assistant manager of the New England District of the Rubber Chemicals Division.

For the present, there will be no change in the location of the two offices.

GALLOWHUR CHEMICAL CO., New York City, manufacturers of mercurial compounds and fermicides, has named John Geraci as plant manager at Ossining, N. Y. Mr. Geraci was formerly assistant technical director of Sterone Corp.

AMERICAN RESINOUS CHEMICALS and American Polymer Corp., Peabody, Mass., have named G. S. Robins & Co., St. Louis as their representatives in Eastern Missouri, Southern Illinois, Western Tennessee and Arkansas.

J. B. Gregory

SEABOARD AIR LINE RAILROAD has appointed James B. Gregory general industrial agent. In his new assignment, Mr. Gregory will work for the industrial development of the territory in the six southeastern states served by the railroad. His major responsibility will be that of interesting new enterprises to locate along the Seaboard's system.

LIBBEY-OWENS-FORD GLASS Co. has named Ralph G. Fox as field sales representative in the Charlotte, N. C., area of he Fiber Glass Division.

Mr. Cox's first engineering work was with Magnolia Petroleum Co., Beaumont, Texas, and more recently he has been with the Duke Power Co., Charlotte. He is a member of the American Society of Mechanical Engineers.

R. S. ARIES & ASSOCIATES, New York, consulting firm of chemical engineers and economics, has established a Detroit branch office.

The office will be headed by R. A. Willinganz, a chemical engineer formerly with the Union Carbide & Carbon Corp. and the Chrysler Corp. His address is 15336 West Warren Avenue, Dearborn, Mich.

EQUIPMENT & CONTROLS ENGINEERS, INC., is the name of a new engineering organization specializing in the designing and building of complete coordinated process controls. Walter F. Gieryk has been named president, and Mifflin S. Jacobs vice-president. The new firm is located at 814 Noblestown Road, Pittsburgh 5, Pa.

J. F. PRITCHARD & CO. has named Karl E. Johnson, who for the past six and one-half years was Chicago District sales manager, to succeed Raymond C. Kelly as manager of Pritchard's Equipment Division in Kansas City. The change becomes effective November 1st. Succeeding Mr. Johnson in Chicago will be E. Allen Bailey.

WYANDOTTE CHEMICALS CORP. has named Stephen T. Orr, vice-president of the company and for 25 years in charge of manufacturing and operating activities, a member of the president's staff with the rank of vice-president. Mr. Orr's manufacturing duties will be taken over by Frank Wolcott, Orr's immediate assistant.

LAWRENCE PUMP & ENGINE CO., Lawrence, Mass., has appointed the James P. Cannon Co. exclusive sales representative in New York City and Northern New Jersey. Mr. Cannon will handle the full line of "Vortex" centrifugal pumps and mixers. He will make his new headquarters at 246 Fifth Avenue, New York City.

Wire for Wet Locations

The wet end of a paper mill is one of the world's roughest services for electric wiring. The photograph shows only one abuse, daily drenching when the whole area is washed down. The air itself is hot and steamy, floors are wet, and in many locations wiring is subjected also to an occasional dose of chlorine, caustic soda or other other chemical used to digest or bleach the pulp.

In many paper mills it is becoming standard practice to use neoprene-jacketed wiring for such service. One of these is Ecusta Paper Corporation in North Carolina, a leading producer of fine cigarette paper. The picture was taken in Ecusta's bleach building and shows an expansion joint in the conduit under a conveyor. Note that the conduit and the exposed neoprene-jacketed wire are hosed down along with everything else. This daily washdown is standard procedure throughout the wet end of the mill.

"We install all our wire and cable in conduit," says the electrical maintenance supervisor at Ecusta, "but it is just plain impossible under conditions like this to keep moisture from getting inside."

When the Ecusta plant was built in 1939, it was wired in the wet areas with type RW (water resistant) building wire jacketed with saturated braid. But the triple threat of moisture, heat and chemicals was too much—failures began to occur after five or six years because of braid deterioration and breakdown of the underlying insulation. The company switched to neoprene-jacketed wire and now uses it exclusively in all its wet locations—both for new wiring and for replacement of the old braid-jacketed wire when it fails. Many thousands of feet of it have been installed in the last six years, most of it in power and control circuits (600 volt a.c.) in the plant's pulp mill, bleaching building, paper machine area, and electrolytic cell room (where chlorine for bleaching is produced from salt). It is also used for all 5,000 volt a.c. feeder circuits throughout the plant, and for most outdoor wiring, both overhead and underground.

"Failures on this wiring," the electrical maintenance supervisor says, "have been practically nonexistent, and those that have occurred have not been caused by jacket deterioration."

E. Walter Hammer

MERRITT-CHAPMAN & SCOTT CORP. has appointed E. Walter Hammer, manager of the Industrial and Building Construction Division.

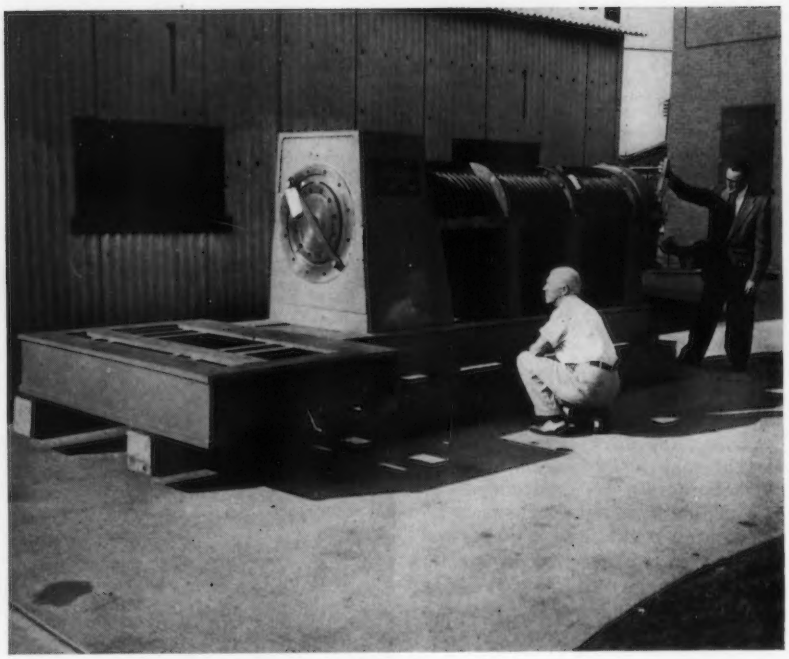
CHEMICAL DIVISIONS OF FOOD MACHINERY AND CHEMICAL CORP. has named Dr. Max Y. Seaton senior vice-president and technical co-ordinator. FMC Chemical Divisions include Westvaco Chemical Division, Niagara Chemical Division, Ohio-Apex Division, and Buffalo Electrochemical Co. Formerly executive vice-president of Westvaco Chemical Division, Dr. Seaton's office will be in the Chrysler Building East, New York City, where the newly created Eastern Administrative Headquarters of all FMC chemical operations are located.

The position of executive vice-president of the Westvaco Chemical Division has been discontinued and William B. Thom, president of Westvaco, and William N. Williams, operating vice-president of Westvaco, will assume the responsibility for the former activities of this office.

LOCKPORT FELT CO., Newfane, N. Y. has announced the retirement, after 38 years of service, of Lester J. Robinson, administrative and technical consultant.

Well-known to the paper trade throughout the country, Mr. Robinson became associated with the Lockport Felt Co. when the firm was in its infancy. He started as an understudy to his father, the late Joseph Robinson, who then was plant superintendent. Made assistant superintendent in 1918, he became superintendent of the mill in 1923 and held that position until 1934 when in addition to the superintendency, he was made assistant plant manager. Mr. Robinson became plant manager in 1945 at the time of his father's retirement. In 1951 he was transferred to the administrative staff. He also has acted as a director of the company for a number of years.

NORANDA MINES LTD. is planning a $4 million sulphur extraction plant in Niagara Falls, Ont.



This Sutherland Refining Co. Pulp Mill Dehydrator, Built by Valley Iron Works, Was Made with Worm and Cage Components of Ductile Iron, which provides High Strength Ductibility and Weldability. The Latter Permits Application of Hardening Materials Around the Periphery of the Flutes of the Worm.

International Nickel Demonstrates Ductile Iron

Members of the press and other interested observers were entertained recently at a demonstration of foundry pouring of Ductile Iron and a display of industrial machinery utilizing Ductile Iron castings. The program was conducted by the International Nickel Co. at their Research Laboratory, Bayonne, N. J. Following the laboratory tour, the guests attended a luncheon-discussion session at the Casino-in-the-Park, Jersey City.

In general, the tour demonstrated how Ductile Iron can replace cast iron when special strength and other properties are required, and replace steel castings in ease of casting and other inherent properties. It was pointed out that the successful substitution of Ductile Iron castings for steel casting is of great economic importance since production in this country can now flow from the 3000 gray iron foundries as well as the 300 steel foundries and 120 malleable foundries. Even though the commercial history of Ductile Iron is only three years old, International Nickel has already licensed the production rights widely.

The new metal was shown to test unusually high in tensile properties, wear resistance, fatigue resistance, heat and oxidation resistance, shock resistance, and many other properties. The metal is being applied regularly

Testing Ductile Iron at the International Nickel Co.'s Demonstration in Bayonne, N. J.

in machine parts of interest to paper makers: beater shafts, chipper hoppers and rotors, conveyor screws, dehydrating machine parts, dryer roll gears, table rolls, and numerous valve and piping applications.

G. B. Bond

STEWART-WARNER CORP. has appointed George B. Bond to the newly created position of sales promotion manager of the Alemite lubrication equipment, Instrument Division. Mr. Bond's duties will include the coordination of advertising programs with sales programs, and the creation of merchandising campaigns, presentations and materials for distributors and jobbers in the automotive, farm and industrial markets.

ANSUL CHEMICAL CO. reports that Arthur C. Pope, vice-president of manufacturing, left recently for a six weeks' trip to Europe. He will investigate chemical plants and processes for Ansul and will also do some fire extinguisher research work. During his stay abroad he will visit France, Italy, Germany, Holland and England.

ACME STEEL PRODUCTS DIVISION of Acme Steel Co., Chicago, has appointed Neil L. Anderson manager of the Steelstrap Department. Mr. Anderson joined the parent company 33 years ago as a mailboy. He was transferred to the Advertising Department, then later served as a sales correspondent, then as a salesman in the company's Indianapolis territory. In January of 1950, he was appointed district sales manager at Cincinnati, Ohio.

PULP AND PAPER TESTING LABORATORIES of New York City have established within their organization a waste paper service bureau devoted to the technical needs of waste paper generators, dealers and consumers in arriving at greater and more effective waste paper utilization.

The bureau, initiated by and supervised by Martin M. Scher, well known as a consultant to the industry on waste paper problems, is staffed by experienced chemists and technicians, and will undertake tests, studies and investigations to determine best ways of securing greater fiber returns, manufacture of higher grade papers from lower grade wastes, and avoidance of rejections.

Mr. Scher's background includes pulp and paper mill engineering, design, construction and operation of deinking and bleaching plants in the East, as well as mill operations and waste paper purchasing.

S. Schwartz

S. SCHWARTZ & ASSOCIATES has been formed by Seymour Schwartz, president of the firm of chemical engineers and economists. Mr. Schwartz's organization will specialize in the field of sulfur processing and recovery with headquarters located at 165 Broadway, New York City.

F. C. Gardner

W. H. Colquhoun

K. W. Reece

EBASCO SERVICES INC. has elected F. C. Gardner executive vice-president of the engineering, construction and business consulting firm. In addition, K. W. Reece has been elected vice-president in charge of engineering and construction, and W. H. Colquhoun has been made engineering manager of the company.

Mr. Gardner, after working with numerous utilities, joined Ebasco in 1939 as head of the design and construction department. A member of the American Society of Civil Engineers, he has been vice-president in charge of engineering and construction since 1945. Mr. Reece joined Ebasco in 1925 and has been Engineering Manager of the company since 1945. W. H. Colquhoun joined Ebasco in 1941 as an appraisal engineer, becoming assistant to the engineering manager in 1950 and assistant engineering manager in April of this year.

HOOKER ELECTROCHEMICAL CO. has appointed Thomas E. Moffitt western manager. Horace W. Hooker, Jr., has been appointed western sales manager, succeeding Albert H. Hooker who has taken an extended leave of absence on the advice of his physician.

Mr. Moffitt's appointment makes him senior executive for all Hooker affairs in the West Coast area, including British Columbia.

GRAVER TANK & MFG. CO., INC., East Chicago, Ind., has opened a Pittsburgh District sales office with Robert E. Dunham as resident sales engineer at 401-B Grant Building, 330 Grant street, Pittsburgh 19, Pa.

Canada and U. S. Contribute to N. Z. Project

Canadians will contribute $2,500,000 to New Zealand's $42 million newsprint production project which is to be set up at Murupara, 120 miles southeast of Auckland. Other capital will come from United States ($5,000,000); New Zealand, Britain, Australia, Sweden and Switzerland.

EUROPEAN SPOTLIGHT

There are no great changes on the European paper market. From most countries, reports were received about somewhat lower prices, about closings-down of mills, and of bad business in general. At the same time, a number of countries published their figures on production, import and export of paper and papermaking materials during the first half of this year and most generally those figures prove that up till now the European paper industry had a difficult year with lower output and smaller sales in every respect. From some countries reports were received about increasing demand, more orders, and a more stable market. It is generally accepted that the market has reached its lowest level now and that business will be less difficult in the months to come, though it is quite sure that the high profits of preceding years will not come back so soon.

This thought is met with in Holland, Germany, Italy and *England*, though Great Britain just recently announced a reduction of £12 per ton in the basic price of esparto papers. All other grades of paper were reduced in price a couple of weeks earlier.

Paper production in the second quarter shows a sharp fall, coming at only 85 percent of the pre-war rate, 11 percent lower than in the corresponding quarter of 1951, and 18 percent lower than in the first quarter of this year. Newsprint production alone, at 73 percent of pre-war, maintained the rate for the first quarter of this year. Board production, at 101 percent of pre-war, was the lowest figure recorded for any quarter since 1948.

Sweden could not succeed in maintaining its prices. To stimulate exports, quotations for wrapping papers were reduced with 14-16 percent, fine papers with 2½-10 percent, and boards 10-20 percent.

Whereas some mills, such as the large mill of Sandvikens Cellulose A.B. at Sandviken, will close down for an indefinite time as its stock of sulphate pulp is too large and the quantity of orders too small. Another mill Gruvöns Bruk in Värmland, managed by Billeruds A.B., will be enlarged into Sweden's biggest kraft mill. A new paper machine, to come into production shortly, will enlarge production to 30,000 tons of kraft paper annually.

A new pulp mill will be built by the Association of Swedish Forest-Owners 30 km south of Oskarskamn at Monsteras. The mill will cost 80-90 million kronor, half of which is now available. The mill will give work to 300 men and is to start production in 1955. At the same place, a new board mill will be erected.

Norway can boast of an increase in its export of mechanical wood pulp during the first half of this year. Compared with the first half of the year 1951, exports of dry mechanical wood pulp were 1,210 metric tons in 1952 and 1,427 metric tons in 1951, and wet mechanical wood pulp: 168,786 metric tons against 148,304. Great Britain, with more than 121,000 metric tons, is chief buyer. France bought more than 24,000 tons, the remainder went in smaller quantities to a variety of countries. Exports to England were considerably increased.

Chemical wood pulp shows for the first half of this year an export figure of 97,000 dry bleached sulphite; 1,000 metric tons wet bleached sulphite; 4,000 tons unbleached dry; 6,000 tons dry sulphate and 1,000 tons wet sulphate.

Again England was, with 50,000 tons, chief buyer, followed by France (12,000) and Holland (10,000). The big bleached sulphite clients, France and Holland, bought considerably less this time, the same as the U.S.A. (from 13,000 tons to 7,600 tons), but England raised from 47,000 metric tons to 50,000.

Exports of paper and cardboard declined, chiefly in newsprint (from 67,000 to 63,000), other writing and printing (from 43,000 to 34,000), kraft (from 9,000 to 4,000), and boards (from 14,000 to 6,500). Only greaseproof was exported in greater quantities: this half year 12,000 metric tons against 11,000 in the corresponding half of the preceding year.

From *Denmark* comes the news that a new company, Halmcellulosefabrikken A/S, will build in Fredericia in Julland a strawpulp mill, the first in this country. The required capital of 6 million kronor is furnished by the Forenede Papirfabrikker, by agricultural organizations, by the municipality of Fredericia, and by some private persons. They hope to get another 6 millions through Marshall-help. The mill is to start production in 1954.

Germany made a poor showing during the first half of this year. Exports of paper and board and pulp went down to 67 percent and 42 percent. Production was lower than the average for 1951: paper production was down 6 percent and pulp 5.5 percent.

From *Switzerland* come reports of new price reductions. Newsprint went down in August 11 francs/kg. All other grades were reduced about 18 percent in the preceding month.

The biggest paper machine in *Poland* will arrive soon at the paper and pulp mill in Skolwin near Szczecin. A second machine of the same size is to follow soon. Reports say that they plan to start strawpulp production.

Though conditions in *Italy* are not yet favorable, a slight increase in exports is reported, from 12,000 metric tons of paper to 15,000 tons in the first half of this year. Also converted paper articles had a better export market. Imports fell from 13,000 metric tons to about 7,000 tons.

Imports of woodpulp went from 76,000 to 55,000 metric tons in the first six months, which figures clearly indicate the difficult conditions in the Italian paper industry. Last year, more pulp was bought than was strictly necessary and of course the paper mills have large losses on these stocks. Prices went down to pre-Korea level, which caused a number of *less rational* mills to close down. At this moment, however, demand is stronger and conditions seem to be better now.

From *Spain* we have no figures for 1952, only some figures about the results of the year 1951. Paper production reached a peak in that year when 186,743 metric tons of paper and board were produced, of which more than 90,000 tons was printing paper and nearly 20,000 metric tons newsprint.

Local pulps are being used in increasing quantities. During 1951, papermaking material consisted of 81,000 metric tons of esparto grass, 33,000 tons of mat weed, 67,000 tons of cuttings and old paper, and 91,000 tons of wood pulp and other kinds of fibers, among which are 22,000 tons of straw. Total pulp production in 1951 is estimated at nearly 180,000 metric tons, an increase of 50 percent over the previous year.

Strike at Dexter

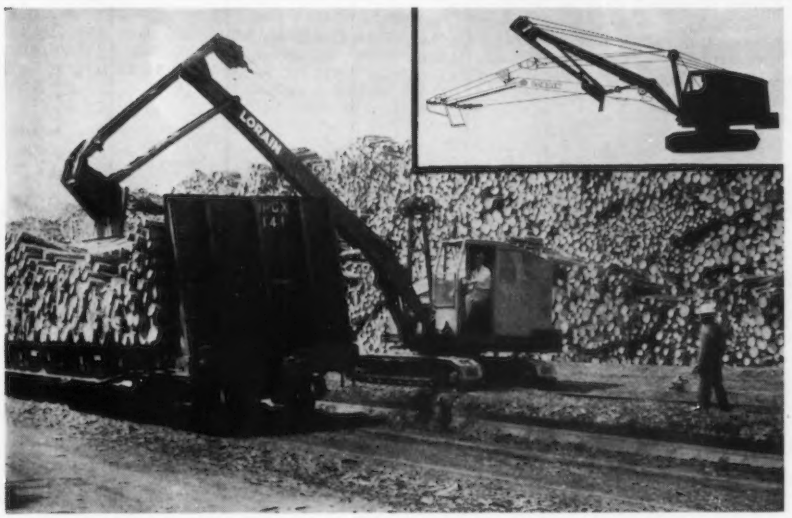
DEXTER, N. Y.—Members of Dexter Local 121, International Brotherhood of Pulp, Sulphite and Paper Mill Workers, voted unanimously in favor of a strike against Dexter Sulphite Pulp and Paper Co. Action followed the company's rejection of the union's contract demands including a 15 cents an hour wage increase.

The issue will be submitted to a mediation board from Syracuse and negotiations will be resumed between management and union officials and mediation board members.

Marathon Launches Pulp Carrier

First commercial vessel ever built in Kingston, Ont., for private owners, the one million dollar pulp carrier of Marathon Paper Mills is being launched this month. She will be christened *D. C. Everest* and is the first all-welded vessel built in Kingston, an historic Canadian shipbuilding center.

EQUIPMENT AND SUPPLIES



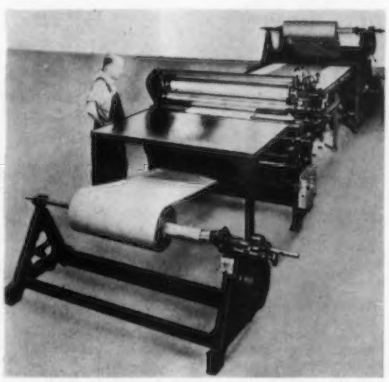
Rake Unloads Pulpwood Rack Cars

A special front end attachment developed for unloading pulpwood rack cars is called the Lorain Rake. Announced by Thew Shovel Co., Lorain, Ohio, it is available for use on ¾ yard Lorain TL-25 models on crawlers or rubber-tire carriers.

Equipped with a gooseneck boom, its rated maximum reach of 31 feet can unload a car in from 10 to 12 minutes — or as fast as the flume or conveyor can take the logs, it is claimed.

The Rake has a horizontal pulling action toward the machine which is designed to provide a positive and precise control for spotting the 5 ft. x 3 ft. board. This precise control minimizes car damage and pulpwood spillage with its attendant added labor cost, it is said.

Operated on the principle of a parallelogram, the board maintains a semi-vertical position at all angles of the boom and stick. Complete visibility allows placing of the board exactly where it is needed, and it may be moved in any manner toward or away from the machine through a simultaneous drag and swing action. This permits the car to be quickly and completely cleaned with a minimum of manual clean-up.



Combination Gluer and Laminator

A laminating machine which handles both sheets or rolls is announced by Potdevin Machine Co., 285 North street, Teterboro, N. J. Described as a 50-inch wide combination conveyor gluing machine and laminator, the machine is designed for sheets and webs continuous lamination, and will laminate materials such as paper, leatherette, leathers, plastic, metal, etc. Materials of varying thickness can be combined, it is stated.

Coatings of adhesive are controlled by a single adjustment of a patented dial. For hot glues, an electric glue heater in the tank keeps the adhesive at the correct consistency. The tank is removable for quick cleaning.

An over-running clutch and auxiliary drive on the coating unit is designed to permit the coating rollers to run continuously, thus eliminating the possibility of adhesive drying on the rollers. A single adjustment controls the pressure over the entire surface of the combining rollers. Two unwind stands handle 40" diameter rolls of material with a shaft-type rewind and Reeves variable-speed drive. A tightening device is provided for the canvas conveyor belt.

Overall dimensions are approximately 22 ft. long, 6 ft. wide and 7 ft. high.

Pressure Regulator and Filter

A combination pressure regulator and filter has been added to the line of Industrial Division of Minneapolis-Honeywell Regulator Co., Wayne and Windrim avenues, Philadelphia 44, Pa. The device provides a single, compact unit that contains the functions of a dependable reducing-relief valve and a filtering arrangement for line service.

Line pressures up to 150 p.s.i. can be reduced and maintained at any regulated output pressure from 0 to 35 p.s.i. without appreciable drift or air consumption, it is said. In addition, the filter and dripwell, accessible for easy removal and servicing, are designed to assure a constantly clean supply of air for pneumatically-operated instruments and similar equipment.

Lift Truck Scale

Announced by Martin-Decker Corp., 3435 Cherry avenue, Long Beach 7, Calif., is a Lift Truck Scale which fits on any hydraulic cylinder type fork truck and shows exactly how much weight has been picked up with the truck. Designed to insure full load with safety, the scale is held to be particularly advantageous where lift trucks are handling loads of varying weights. The device also enables the driver to keep count of the total weight he has loaded on a highway truck or railroad car.

Actuated directly by the hydraulic pressure that lifts the load, with manual zero adjustment before load is lifted, the features accuracy, simple installation, sturdy construction, and sensitive weight measurement. It is available in capacities from 2,000-lb. with 10-lb. dial division to 16,000/18,000-lbs. with 100-lb. dial divisions.

Descriptive bulletin sent on request.

(Continued on page 34)

PRICES

The prices below reflect market quotations in New York at the mill level on standard grades. Does not include spot offerings.

PAPER AND BOARD

Standard News, Delivered Ports
Rolls, contract, per ton ..... $116.00/$126.00
Sheets 138.00/ 147.50

Kraft—per cwt. 50# base wgt. OPS Ceiling CPR 88
F.o.b. Southern & Western integrated mills. C.l. Freight allowed up to $10 a ton.

Standard Wrapping, ctr. rolls ...	$7.75/ —
Butchers, counter rolls	8.25/ —
Standard Bag, mill rolls	7.50/ —
Shipping Sack, mill rolls	7.75/ —
Gumming, mill rolls	8.00/ —
Asphalting, mill rolls	7.75/ —
Envelope, Sub. 20, mill rolls ...	9.25/ —

Tissues—per ream 24x36 (480) 10 lbs. 2500 lbs.

Wh. No. 1 Frd.	$1.85/$1.90
Wh. No. 1 MG	1.85/ 1.90
Wh. No. 1½	1.50/ 1.65
Wh. No. 2	1.35/ 1.45
Kraft Anti-Tar 20-30	1.75/ 1.80
White Anti-Tar 20-30	2.20/ —

Toilet— per case of 100 rolls—1M sheets

Unbleached 4½x4½	$8.00/$8.25
Unbleached 4½x5, 650 sheets	6.65/ —
Bleached 4½x4½	10.00/12.50
Bleached 4½x5	9.81/10.14

Per Case of 50 rolls—2000 sheets

Unbleached 4½x4½	$8.00/$9.75
Bleached 4½x4½	6.95/ —

Per Case of 100 rolls—1000 sheets

Facial, 4½x4½, 2 ply	$8.95/10.37
4½x5, 2 ply	10.25/10.75

Paper Towels—per case of 3750

Wh. Jr. M'tif'd 9⅛x9½	$6.40
Br. Sr. M'tif'd 9⅛x12	4.40
Br. Jr. M'tif'd 9½x9⅛	3.90
Br. Jr. Sgl. fold 9⅛x10¾	3.95
C-Fold 10⅛ min. x 14 max.	5.90/ 6.64
Blchd. 7½x11, 48/50 rolls	6.80/ 7.92

Manila, per cwt.

No. 1 Jute Tag, 100-lb., sheets...	$19.55/21.55
Reg. Jute M.F. 40-lb., sheets....	18.50/20.50
Printing Manila	12.00/ —

Gummed Tape—per bdl., 500 bdls. or more

90-lb. 375 ft. GSI	$6.90/ —
60-lb. 600 ft. GSI	6.90/ —
35-lb. 800 ft. GSI	7.95/ —
35-lb. 500 ft. GSO	6.00/ —

MARKET WOOD PULP

Fourth Quarter Contract Prices, Per Short Air-Dry Ton
Delivered Basis — Varying Freight Allowances

	U.S.	Canadian	Swedish	Finnish	Norwegian
Groundwood	$82.50/ 87.50†	‡$60.00/ 85.00	‡§66.00/ 70.00		$75.00/ — §
Sulfate, Bleached	140.00/147.50	145.00/155.00	140.00/142.50§		
Semi-bleached Sulfate ..	140.00/ — *		135.00/ —		
Sulfate, Unbl.	100.00/ —	100.00/125.00	$100.00/105.00§	$105.00/135.00	100.00/ — §
Sulfite, Blchd.	140.00/ —	140.00/145.00	140.00/ —	140.00/ —	140.00/145.00
Sulfite, Unblchd.	125.00/132.50	135.00/ —	115.00/ — §	120.00/125.00	115.00/ — §
Sulfite, Unbl'd (Glassine)	132.50/ —	139.00/ —	119.00/ — §		
Soda, Blchd.	140.00/ — *				
Sulfite Screenings	72.50/ — *				
Sulfate, Screenings	67.50/ — *			Delivered Basis	
Groundwood Screenings .	60.00/ — *				
Unblchd. Sulfate Sideruns	132.50/ — *				
Stand. News, Sideruns ..	92.50/ — *				

* OPS Ceiling, CPR 49. ‡ F.o.b. Shipping Point. § On Dock Atlantic Ports.
† Midwestern markets.

Boards Deld., per ton (10 tons or over)

Filled News	$90.00/ —
Plain Chip	90.00/ —
Blchd. Mla. L-d. Chip	140.00/142.50
White Pat. coated .020	160.00/162.50
Kr. Liner 42 lb. M sq. ft. $2.47	117.50/ —
Kr. Corr. .009 M sq. ft. $1.59	122.50/ —
Binders Boards	133.00/ —

The following prices are representative distributors' resale prices:

Rag Content Bonds and Ledgers—
White, 20 lb.

Bonds	4-Ctns. per cwt.
100% Rag. Ex. No. 1	$70.45/$75.90
100% Rag	62.65/ —
75% Rag	48.15/ —
50% Rag	38.90/ —
25% Rag	31.65/ 33.00

Ledgers	4 Ctns. per cwt.
100% Rag Ex. No. 1	$72.65/$72.80
100% Rag	63.90/ —
75% Rag	49.40/ —
50% Rag	40.20/ —
25% Rag	33.00/ 34.30

Sulphite Bonds and Ledgers
White, 20 lb.

Bonds	4 Ctns. per cwt.
Watermarked	$19.00/$20.50
Plain	18.40/ 19.50

Ledgers	4 Ctns. per cwt.
Watermarked	$20.30/$21.80
Plain	19.35/ 20.80

White Book

Conversion Coated	Case per cwt.
No. 1	$23.90/$24.65
No. 2	22.40/ 22.85
Machine Coated	
Extra No. 1	$21.35/$21.65
No. 1	19.15/ 19.65
No. 2	16.65/ 17.40
Uncoated	
No. 1 Antique (Watermarked) ...	$19.15/$19.65
Offset	18.15/ 19.15
A Grade E. F.	18.40/ 18.65
A Grade S. C.	18.90/ 19.15
B Grade E. F.	17.40/ 18.15
B Grade S. C.	17.90/ 18.65

‡ Indicates a price change.

WASTE PAPER MARKET

Prices to mills, per ton, f.o.b. cars shipping point (includes brokers' fee.) These quotations are a partial indication of the price range on volume tonnage in each market on the date specified, as gathered from major dealers. SPECIAL PACKINGS AND SPOT TONNAGE NOT INCLUDED. See TRENDS.

	New York Oct. 27	Philadelphia Oct. 7	Boston Oct. 24	Chicago Oct. 1
No. 1 Mixed Paper	$7.00/ 10.00	$7.00/ 10.00	$7.00/ —	$10.00/ —
No. 1 News	12.00/ 13.00	11.00/ 12.00	12.00/ —	15.00/ —
Over-issue News	20.00/ 22.00	20.00/ 21.00	12.00/ 14.00	18.00/ —
Mill Wrappers	7.00/ 8.00	10.00/ 12.00	13.00/ 19.00	13.00/ —
Corrugated Containers	17.00/ 18.00	12.00/ 14.00	18.00/ 19.00	20.00/ —
Double Kraft Ld. Corr. Cuts ..	35.00/ 45.00	30.00/ 37.50	25.00/ 40.00	35.00/ 40.00
100% Kraft Corr. Cuts	45.00/ 55.00	40.00/ 55.00	35.00/ 45.00	55.00/ —
Used Sugar & Flour Bags	35.00/ 45.00	27.50/ 37.50	25.00/ 35.00	30.00/ —
Super Resorted Br. Kraft	45.00/ 50.00	25.00/ 32.50	20.00/ 35.00	30.00/ —
New Br. Kraft Env. Cuts	70.00/ 80.00	70.00/ 75.00	55.00/ 65.00	60.00/ —
New Br. Kraft Cuts	60.00/ 70.00	60.00/ 65.00	45.00/ 55.00	55.00/ —
No. 1 Gdwd. Shvs.	20.00/ 30.00	20.00/ 25.00	28.00/ 30.00	25.00/ —
White Newsblanks	65.00/ 75.00	65.00/ 70.00	40.00/ 50.00	50.00/ —
No. 1 Flyleaf Shvs.	40.00/ 50.00	25.00/ 35.00	25.00/ 42.50	30.00/ —
No. 1 Soft Wht. Shvs.	75.00/ 85.00	60.00/ 70.00	75.00/ 85.00	75.00/ —
Super Soft Wht. Shvs.	85.00/ 95.00	65.00/ 75.00	95.00/100.00	85.00/ —
Hd. Wht. Shvs.	95.00/100.00	85.00/105.00	85.00/100.00	90.00/ —
Hd. Wht. Env. Cuts	115.00/125.00	110.00/120.00	105.00/120.00	100.00/ —
New Manila Env. Cuts	65.00/ 72.00	65.00/ 85.00	60.00/ 70.00	40.00/ —
Col. Tab. Cards	55.00/ 65.00	45.00/ 50.00	40.00/ 50.00	50.00/ —
Manila Tab. Cards	70.00/ 85.00	70.00/ 85.00	70.00/ 85.00	65.00/ —
No. 1 Mixed Ledger	40.00/ 50.00	40.00/ 45.00	35.00/ 45.00	50.00/ —
White Ledger	57.50/ 62.50	57.00/ 65.00	55.00/ 60.00	65.00/ —
No. 1 Book & Mag.†	16.00/ 18.00	16.00/ 18.00	18.00/ 28.00	15.00/ —
No. 1 Rep'd. Hvy. Books‡	26.00/ 35.00	20.00/ 25.00	30.00/ 37.50	27.50/ —

† Includes Time & Life; no coarse groundwood. ‡ Not to exceed 10% groundwood. § Deld.

RAG MARKET

New Domestic Cotton Cuttings
OPS Ceiling Price, CPR 28 *
Delivered Mill Basis

No. 1 White Shirts	$15.50/$21.00*
No. 1 Unblchd. Muslins	17.50/ 21.00*
Blchd. & Unblchd. Underwears ..	16.50/ 21.00*
Blchd. Canton Flannels	15.50/ 21.00*
No. 1 Light Silesias	13.25/ 16.00*
No. 1 Light Prints	8.75/ 11.50*
No. 1 Blue Overalls	11.75/ 14.50*
Suntan Khakis	9.00/ 11.50*
Fancy Shirts	7.75/ 10.00*
Indigo Blues	7.50/ 10.00*
Mixed Khakis	6.00/ 8.00*
Corduroys	7.00/ 8.00*
Cottonades	6.75/ 8.00*
No. 1 Washables	5.25/ 6.50*

Old Domestic Cotton Rags
(Prices to Dealers, F.o.b. Ship. Pt.)

	Per 100 lbs.
Mixed White	$3.50/$4.50
Cotton Pants & Overalls	3.00/ 4.00
Thirds and Blues, Repacked	2.50/ 3.00
No. 1 Roofing Rags	1.30/ 1.40
No. 2 Roofing Rags	.90/ 1.00

Bagging
(Prices to Dealers, F.o.b. N. Y.)

	Per 100 lbs.
Foreign Gunny	$5.00/$5.25
Heavy Wool Tares	5.00/ 5.50
Foreign Scrap Burlap	4.50/ 4.75
Austr. Wool Pouches	6.00/ 7.00
Domestic Manila Rope	6.50/ 7.00
No. 1 Sisal Strings	6.00/ 6.50

COTTON LINTERS

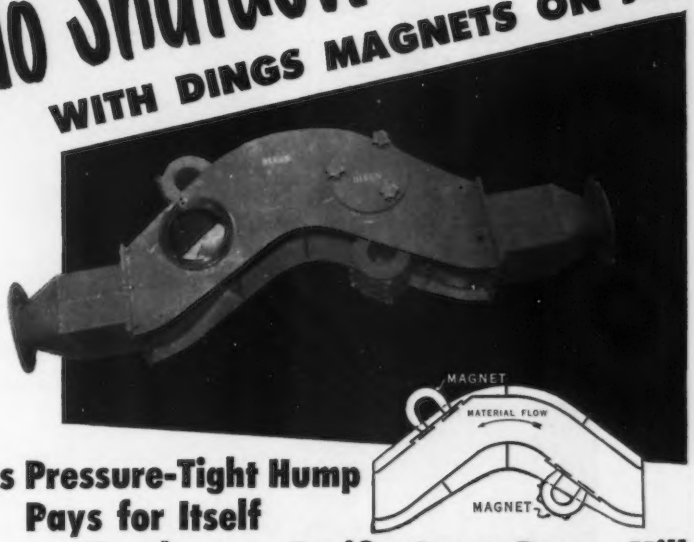
Memphis Market
F.o.b. Oilmills

	Oct. 21 cents per lb.
Grade 2	13.25/ 12.00
3 1st cut	11.50/ 10.00
4	9.00/ 6.50
5	6.00/ 4.50
6 2nd cut	4.00/ 3.75
7	3.75/ 3.50

PRICES OF MATERIALS

Aluminum sulfate:		
comi. bags, wks.....cwt.	1.65	
iron-free. c.l.	3.25	
Alcohol, ethyl:		
tax free, dms. c.l.....gal.	1.01	/ 1.05½
deld. East Miss.		
Alcohol, methyl:		
Synthetic, Zone 1, dms.		
c.l. fit. alld.....gal.	.44	
Casein, acid prec.:		
dom. sh. pt. c.l. .....lb.	.28	/ .38
imp. ex. dock .....lb.	.21	/ .23
Caustic soda:		
c.l. wks. solid, 76% cwt.....	3.35	
flak. & grd 100-lb. drums...	3.75	
liquid 50% tanks....	2.55	
liquid 70% tanks....	2.65	
China clay:		
dom. air-float, c.l. wks.....ton	10.00	
water-washed, lump. filler....	11.00	
coating	17.60	/30.50
imported, ex. whse...short ton	15.20	/28.35
Chlorine:		
single-unit tanks, works...cwt.	2.70	
multi-unit .....cwt.	3.20	/ 4.40
Formaldehyde:		
USP, inh dms, c.l. wks....lb.	.0625/	.0675
l.c.l. E. wks.	.0675/	.0725
Fuel oil:		
Bunker C, No. 6 hvy. tanks,		
N.Y. harbor .....bbl.	2.10	/ —
light, tanks, refinery .....bbl.	2.00	/ 2.25
Hydrogen peroxide:		
USP, 35% cbys. E. of Miss. lb.	.23½/	.26½
Lime:		
hydrated, bags, wks. ....tons	13.50	
Rosin:		
B gum, drms, c.l. Savan..cwt.	7.00	/ —
K, M, N .....cwt.	7.29	/ 7.30
FF, wood, do. .....cwt.	4.10	/ 6.50
Rosin size:		
70%, gum & pale grds, tank		
cars, south, sh. pt.....cwt.	6.25	/ 6.30
Salt cake:		
dom. bulk, c.l. wks.....ton	17.00	
wks. frt. all.....ton	20.00	/22.00
Soda ash:		
light, 58%, bags, wks.....	1.50	
bulk ....cwt.	1.20	
Sodium silicate, 40°:		
turbid. c.l. wks.....cwt.	1.30	/
l.c.l. wks.	1.60	/ 1.85
Sodium peroxide:		
dms. c.l. E. of Miss.....lb.	.21	
l.c.l. do. .....lb.	.21½/	.22
Soybean, protein:		
chem. isol, wks, c.l., bags..lb.	.23½/	.24¼
Sulfuric acid:		
60° Be. cbys. c.l. wks.....cwt.	1.75	/ —
l.c.l. wks. .....cwt.	2.05	/ 2.85
Sulfur:		
crude, c.l. mines, contract,		
long ton	21.00	/22.00
f.o.b. vessels Gulf	22.50	/23.50
Sulfur dioxide:		
liquid, coml. cyl. wks.....lb.	.09	
multi-unit cars .....lb.	.0535	
Starches:		
pearl corn, bags, c.l. wks...cwt.	6.59	/ —
white dextrines, c.l. wks...cwt.	7.97	/ —
potato, Idaho, c.l. wks....cwt.	8.50	/ —
potato, Maine, f.o.b. wks...cwt.	10.50	/11.00
potato, imported O.D. ...bags	8.60	/ 8.90
Talc:		
domestic, sacks, c.l. wks...ton	25.00	/30.00
Titanium dioxide:		
anastase, c.l. deld., bags...lb.	.21	/ .21½
l.c.l. deld. .....lb.	.22	/ .22½
rutile, c.l. deld. .....lb.	.23	/ .23½
l.c.l. deld. .....lb.	.24	/ .24½

"No Shutdowns" WITH DINGS MAGNETS ON JOB"



Dings Pressure-Tight Hump Pays for Itself Every Month at a Pacific Coast Paper Mill

"PAID FOR ITSELF its very first month of operation" says a Pacific Coast paper mill. "The Dings pressure-tight Hydro-Hump incorporating non-electric, permanent Perma-Plate magnets removes a handful of iron every 24 hours. The pulp comes in bales tied with soft iron wire. The bulk of this wire is removed by the men feeding the Hydrapulper but small ends invariably got away and fouled the pump. Considerable time was lost for repairs. SINCE INSTALLING THE DINGS WE HAVE NOT HAD A SINGLE SHUTDOWN . . ."

Built to withstand pressures to 30 psi, the Dings pressure-tight Hump is a complete unit ready for installation into existing pipelines. Special units are available for greater pressures. Double-barreled protection is provided by the two sets of Perma-Plate magnets positioned as shown above. These magnets are the most powerful permanent plate magnets available. Removal of iron is accomplished through easily accessible ports.

DINGS "JOB-SELECTED" MAGNETS FOR EVERY PAPER MILL NEED

WHATEVER your tramp iron problem, Dings can recommend exactly the right magnet for the job. "Job Selecting" a magnet at Dings is a matter of choosing from the widest line of types and sizes available backed by over 50 years experience as the world's largest exclusive builder of every conceivable type of magnetic separator.

This Catalog Helps You To "Job-Select" a Magnet

Catalog C-5000-B lists Dings complete line by application, describes all Dings magnets from the low cost Perma-Plate to the most powerful tramp iron magnet available—the RM Rectangular—effective at distances up to 30"! Send for it today.

DINGS MAGNETIC SEPARATOR CO.
4711 W. Electric Avenue
Milwuakee 46, Wisconsin

Dings MAGNETS

AD-1

PULP
PAPER

NORDICUS
INCORPORATED

500 FIFTH AVENUE
NEW YORK 36, N. Y.

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MERKOR

Non-Returnable, Durable standard mill core.

GARTEX

Returnable and Non-Returnable extra strong mill core for regular and special needs.

ANY LENGTH, DIAMETER AND THICKNESS

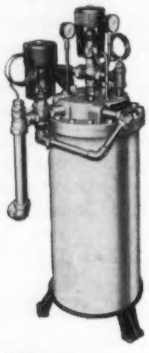
Write for samples and prices

MERCER
PAPER TUBE, INC.
655 WEST INGHAM AVE.
TRENTON, NEW JERSEY
NEW YORK OFFICE—500 5th AVE.

High Pressure Blower Removes Fumes, Bad Odors

A high pressure blower designed for quick removal of fumes, smoke, dust, sawdust and obnoxious odors is being offered by Standard Electric Mfg. Co., Inc., West Berlin 12, N. J.

Precision made, all-aluminum, the blower is rated to move up to 450 cubic feet of air per minute. On the standard unit, made with a 5½" inlet and 3½" outlet, power is supplied by an enclosed 1/6 hp. Westinghouse 115-v., single phase a.c. 3450 r.p.m. motor. Larger sizes with different speeds and different current characteristics can be obtained.



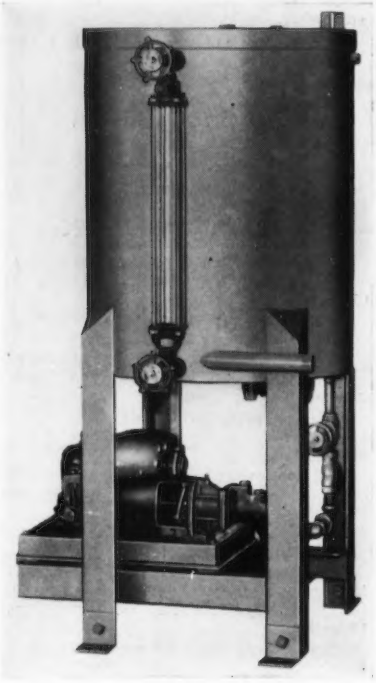
Improved Safety Water Heater

The Coe Mfg. Co. of Painesville, Ohio, announces an improved model of their steamheated water heater which is said to be even safer and more accurate in control of temperature than former models.

Available in 17 sizes and capacities ranging from 200 to 3000 g.p.m., it is essentially a heater for industrial plants and institutions, which is delivered tested and adjusted. Installation requires the attachment of steam and water pipes. Coordinated safety devices and regulators are designed to assure safety with maximum thermal efficiency. The heavy glass lined ASME tank is insulated and protected by a metal cover.

The heater delivers water for washroom uses at the safe temperature of 120°F. If desired, secondary water at 160° to 180°F. for scalding purposes can be drawn simultaneously directly from the tank.

Write for illustrated bulletin.



Packaged Unit Chemical Feed System

A new "packaged" chemical feed system is now available from the Milton Roy Co., 1356 East Mermaid Lane, Philadelphia 18, Pa. Utilizing the basic elements of a chemical feed system, the package reduces field piping and effects considerable savings in installation time and space, the manufacturer points out.

The unit consists of a 50-to-500-gallon carbon steel chemical solution tank mounted over a Controlled Volume Pump. Piping is supplied for the suction line, complete with valves and sight gauge for reading liquid level. Accessory equipment, including agitators, dissolving baskets, low-level alarm panel, electrodes and relays, etc., can also be supplied.

The Controlled Volume Pumps are available in either Simplex or Duplex models, air-powered or motor-driven. They are manufactured in 10 types of metal, all designed for specific chemical services. Pump capacities range up to 300 g.p.h., and operate against pressures up to 5,000 p.s.i.

This "packaged" system offers a simple compact unit for a host of chemical feeding operations throughout industry.

Gearmotor

A new Lifeline® single-reduction gearmotor (Type B) is available from the Westinghouse Electric Co., 401 Liberty avenue, Box 2099, Pittsburgh 30, Pa.

Designed to meet the mounting limitation requirements peculiar to side entry agitators and mixers, the new unit is suitable for light-duty coupled service applications such as fans and pumps. It is available in ratings from 1 to 30 hp., 780 to 420 r.p.m., AGMA Classes I and II.

Dry-Type Distribution Transformer

A completely enclosed, non-ventilated dry-type distribution transformer for service on secondary circuits rated 600 volts and below is announced by Westinghouse Electric Corp., P. O. Box 2099, Pittsburgh 30, Pa. Designated as type E, the new transformer supersedes the type AJR line of dry-type transformers.

The enclosed distribution transformer utilizes Hipersil cores and class H silicone insulation and operates at 120 degrees C. rise. Both high- and low-voltage leads are brought to Micarta® laminated plastic terminal boards at the bottom of the case. Since the temperature of the terminal compartment is less than 30 degrees C., standard insulated cables can be used for wiring through conduit, it is stated. Conduit knockouts are located at the bottom of the case walls.

In addition to the 3-, 5-, and 10-kva AJR sizes superseded, the type E will also be built in 15-, 25-, 37½-, and 50-kva ratings.

The three smaller sizes are designed for indoor or outdoor service and wall mounting. Ratings above 15 kva, also for both indoor and outdoor service, are designed for floor or platform mounting, though the 15- and 25-kva units can also be wall mounted.

Portable pH Meter

The Portable pH Meter is announced by Photovolt Corp., 95 Madison avenue, New York 16, N. Y., as a low-priced battery-operated pH Meter of utmost simplicity. Where other similar instruments use from 9 to 17 batteries, Model 125 works with only three ordinary radio batteries which are rated to give 2000 hours of service.

The new construction has been achieved by the use of the most advanced designs of subminiature tubes and circuits which also made possible a drastic reduction of the number of electronic components. As a result, the instrument is offered at low price; operation and maintenance are held to be greatly simplified and yet the high accuracy of 0.03 pH is assured, the manufacturer claims.

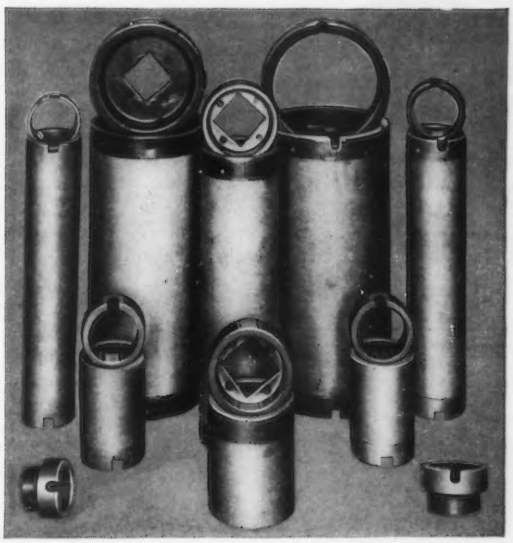
While the pH Meter is primarily intended for battery operation, a stabilized power supply unit can be furnished to operate the instrument from the a.c. power line without the use of batteries.

Inquire for Bulletin 118.

NEWS OF ASSOCIATIONS

Metropolitan District—Empire State TAPPI Meet

The Metropolitan District held its first dinner meeting of the season on October 14 at Fraunces Tavern, New York City, with about 80 members and guests in attendance. The chairman, Paul L. Haggerty, introduced the offi-



ELIXMAN
CORES
CAPS

Straight wound paper cores made in sizes from 2" to 10" inside diameter with any thickness wall required.

Long draw protected slot caps of heavy gauge steel in all standard sizes.

Heavy duty caps with reenforced square hole. This patented feature of reenforcement gives added strength and durability.

Samples of caps or cores will be gladly submitted

ELIXMAN PAPER CORE COMPANY, INC.
CORINTH, N. Y.

cers: Ralph Kumler, vice-chairman, and John Doherty, secretary-treasurer. Chester A. Landes is program chairman; Patrick C. Palmaccio, membership chairman; William R. Willets, publicity chairman; with Lew R. Ayres, Edward F. Boyle and John L. Rice members-at-large of the advisory committee. The Articles of Organization which had been mailed to the membership were approved.

Chet Landes, the program chairman, introduced the panel of speakers who discussed the development of specialty papers to capture new markets. Dr. George C. Borden, technical director of Riegel Paper Co., described in detail how his company proceeded with the development of the many specialties (over 600) which it manufactures and the trials and tribulations frequently involved, using concrete and frequently humorous examples. Walter T. Cusack, vice-president of Aldine Paper Co., amplified the subject by defining the wide scope included under the heading "specialty papers" and made particular reference to the years of research and development required in developing a bag for vacuum cleaners. Lawrence S. Tobias, sales engineer, International Paper Co., described the development and converting of twisting papers, the problems encountered, and their many uses. All the speakers emphasized the growing potentialities for paper specialties but pointed out that frequently it was easier to develop a new sheet than it was to find a market for it. All the speakers showed many samples which graphically illustrated their talks.

Restigouche
BLEACHED SULPHITE PULP
for the manufacture of cellophane, rayon and paper products
RESTIGOUCHE COMPANY, Ltd.
Campbellton, N. B., Canada

Varied Technical Program Keynotes Roanoke Meeting

A splendid technical program, spiced up a bit with good entertainment, featured the joint fall meeting of the Southeastern and Southern Divisions of The American Pulp and Paper Mill Superintendents Assn., on October 8-10, at Hotel Roanoke in Roanoke, Va. In spite of inclement weather, the meeting was very well attended. Approximately 300 persons registered for the occasion.

Cecil B. Curry, National Container Corp. of Virginia, Big Island, Va., chairman of the Southeastern Division of the association, opened the meeting at 10:30 a.m. on October 8, and from that time onward until the grand finale was in evidence almost everywhere seeing to it that everything went off as planned.

Mr. Curry informed the audience that Jack J. Thompson, Southland Paper Mills, Lufkin, Texas, as representative of the Southeastern Division, had sent a telegram to Fred C. Boyce. The message read, "We all miss you and wish you a speedy recovery" Mr. Boyce, widely and affectionately known as the "Daddy" of the Superintendents Association, because of a serious illness, was hospitalized at the time in the Columbia Hospital, Milwaukee, Wis.

Mr. Curry introduced Charles McCarthy, Southern Paperboard Corp. Wentworth, Ga., 3rd Vice-Chairman of the Southern Division, as Chairman of the first technical session. This session, taking up the remainder of the morning, included the presentation of three papers, namely: "Quality Control In Papermaking," by Erving W. Rasmussen, Scott Paper Co., Chester, Pa. (pinch-hitting for Ralph J. Knoll of the same company originally scheduled for the paper, but unable to be present.); "Current Appraisal of Alkaline Digester Corrosion Problems," by H. O. Teeple, The International Nickle Co., Inc., New York, New York; and "Personnel Selection Must Be Realistic," by Rex Parrott, Sonoco Products Co., Hartsville, South Carolina.

Andrew J. Miller, Jr., Assistant Director of Industrial Relations, Mead Corp., Chillicothe, Ohio, was the guest speaker at the joint luncheon for both the men and the women on the first day of the convention. He was introduced by Howard E. Wehr, Division Manager, Mead Corp., Harriman, Tenn., a former Chairman of the Southeastern Division of the association.

Mr. Miller stressed the need for preserving our way of doing business; said that the attention of the world is focused on us; and related that our standard of living is second to none in the world today.

Mr. Miller, in concluding his talk, said that people go into business to make money; that going concerns bring competition; that it is necessary to be looking continually for something new; and that the competitive market is the driving force behind the American system.

Two features highlighted the technical session of the afternoon program

of October 8—a vacuum panel sitting and a talk by Harry D. Sayre, President, United Paperworkers of America, Washington, D. C. Clyde D. Jones, Ecusta Paper Corp., Pisgah Forest, N. C., was chairman of the session.

Charles P. Spalding, Beloit Iron Works, Beloit, Wis., was moderator of the vacuum panel discussion. Sitting with him on the panel were Jake Hayes, National Container Corp., Jacksonville, Fla.; J. A. McDermott, St. Regis Paper Co., Jacksonville, Fla.; Carl Clark, Clark & Vacario Co., Bronxville, N. Y.; and D. L. Dowling, Roots - Connersville Blower Co., Connersville, Ind.

The comments of the several members of the panel brought forth many questions and much added discussion from the floor. The questions and comments related specifically to vacuum applications on the fourdrinier part of a paper machine. The information presented revealed considerable divergence in practice; and the difficulty involved in trying to bring such data together with some common denominator.

The talk by Mr. Sayre concluded the afternoon session. In this talk, Mr. Sayre said in part that there should be more and greater participation in labor relations by production representatives of management; that, regardless of vast technical knowledge, no production man can be a complete success unless he also knows how to work with men and prevail upon them to work with him; and that the labor experts hired by major companies today, personnel directors, lawyers and so on, have a record of causing more strikes, needless disputes and senseless arguments than smaller companies which combine production with labor problems.

Two technical sessions were held on October 9—one session in the morning, the other session in the afternoon. Three papers were scheduled for presentation before the morning sessions—four papers before the afternoon session.

The papers on the morning program were: "The Hydroflyte Fourdrinier," by Jack Beuchler, The Black-Clawson Co., Hamilton, Ohio; "The Psychology of Avoidable Industrial Accidents," by Gerhard K. Cotts, M. D. Lynchburg, Va.; and "Development In Cylinder Machine Operation," by James J. Harrison, Michigan Carton Co., Battle Creek, Mich.

The afternoon program included the following papers; "Bleached Semi-Chemical Pulping," by C. William Converse, Sprout Waldron & Co.., Inc., Muncy, Pa., "Vacuum and Pick-Up Felt Transfer From Wire To Press Section," by R. W. Burnett, Crossett Paper Mills, Crossett, Ark.; "Oliver Ahlfors Screen," by T. B. Calhoun, Oliver United Filters, Inc., New York, N. Y.; and "A Study of Recovery Boiler Cleanings," by Sam Walleze, Copes - Vulcan Division, Continental Foundry & Machine Co., Erie, Pa.

At the luncheon on October 9, Edward B. Horner, Scott, Horner & Mason, Inc., Lynchburg, Va., addressed the group on "Financing A Business."

After making reference to and exhibiting two prospect uses of the National Container Corp., and citing the tremendous amount of work that went into assembling the information presented in them, Mr. Horner commented on the nature of the investment banking industry.

Mr. Horner called attention to a booklet entitled "Facts You Should Know About Investment Banking"; and indicated that it was one of many booklets that has been published in an attempt to educate the millions of Americans as to what the industry is and does.

Aubrey T. Taylor, vice - president and plant manager, National Container Corp. of Virginia, Big Island, Va., introduced Mr. Horner to his audience.

At dinner on the evening of October 8, Colonel Jack Major of Paducah, Ky., was the guest speaker. He spoke

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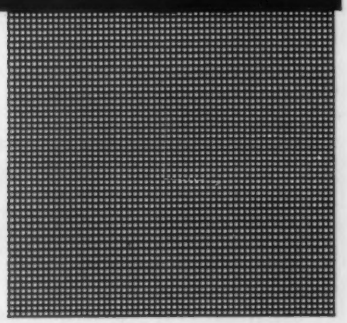

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Lindsay WIRES FOR PAPER MILLS

on the subject of "Taxes, Women and Hobbies."

Colonel Major was introduced by W. L. McHale, vice-president and general manager, Southland Paper Mills, Inc., Lufkin, Texas.

Other festivities included a smorgasbord luncheon at the Boonsboro Country Club, Lynchburg, Va., on October 10 as guests of the Mead Corp., Lynchburg; and a banquet that same evening at Hotel Roanoke.

Paul Ellis, Division Manager, Mead Corp., Lynchburg, Va., welcomed all guests to the luncheon following a trip through the Mead mill during the morning.

Highlights of the banquet included group singing led by Harry Hulmes of Lindsay Wire Weaving Co., the presentation of a past chairman's certificate to both Cecil Curry and Jack Thompson individually, retiring chairmen of the Southeastern Division and Southern Division, respectively, by Gordon K. Singletary, Brunswick Pulp & Paper Co., Brunswick, Ga., and president of The American Pulp and Paper Mill Superintendents Assn.; the presentation of the Gene Bechard Memorial trophy — a golf trophy — by A. A. Nyitray of the Eastwood-Nealley Corp., Belleville, N. J.; presentation of golf prizes by L. L. Griffiths, Jr., of Draper Brothers Co., Canton, Mass.; and the presentation of door prizes by Harry Hulmes, assisted by George Hardaker of Lockport Felt Co., Newfane, N. Y., and by George Witham of Orr Felt & Blanket Co., Piqua, Ohio.

Dancing followed the banquet and brought the meeting to a close.

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DETROIT 7, MICHIGAN

AMERICAN PULP AND PAPER ASSOCIATION'S PAPER PRODUCTION RATIO REPORT

(Production as per cent of normal capacity)

COMPARATIVE WEEKLY SUMMARIES

1952	Sept. 20	Sept. 27	Oct. 4	Oct. 11	Oct. 18
	86.8	90.7	90.3	90.0r	89.9
1951	Sept. 22	Sept. 29	Oct. 6	Oct. 13	Oct. 20
	99.8	99.5	101.0	100.3	100.4

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1951	99.3	101.3	101.9	102.8	102.2	100.1	88.6	97.7	94.3	100.3	98.0	90.0	98.0
1952	97.1	97.8	95.1	90.6	88.6	88.7‡	75.5‡	86.7‡	82.5‡				

COMPARATIVE YEARLY SUMMARIES

	1945	1946	1947	1948	1949	1950	1951	1952
Year to Date	88.9	101.0	103.9	97.1	87.1	95.8	99.8	90.4
Year Average	85.4	96.9	101.7	92.1	83.7	95.8	98.0	

‡ Preliminary.
r Revised.

PAPERBOARD OPERATING RATIOS†

1952	Sept. 20	Sept. 27	Oct. 4	Oct. 11	Oct. 18
	93	94	95	96	97
1951	Sept. 22	Sept. 29	Oct. 6	Oct. 13	Oct. 20
	90	90	88	90	89

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1951	102	105	104	105	104	103	84	94	86	87	82	75	94
1952	81	86	95	82	82	82	71	89	88				

All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

Note: In the above tables *all* the ratios shown are on the basis of a normal 6 and 7 day capacity.

† Per cents of operation based on "Inch-Hours" reported on a 6-day basis to the National Paperboard Association.

OBITUARIES

Dr. Gustavus J. Esselen, 64, vice-president of the Esselen Research Division, United States Testing Co., Inc., died October 22 at his home in Swampscott, Maine.

Robert O. Ball, 53, manager of Penn Paper & Stock Co., Washington, D. C., died suddenly while en route to his home from a business trip. He was born and educated at Philadelphia, Pa., where he joined the paper company, shortly after World War I. He came to Washington 19 years ago to manage the office here.

David Fleming Teetor, 76, founder and former president of the Genesee Valley Paper Co., died October 15 at his home in Rochester, N. Y.

Mr. Teetor began his career with the R. M. Myers Co., a Rochester wholesale paper concern. He left there in 1929 to found the Genesee Valley Paper Co., serving as president of that company until illness forced him to retire in 1949.

Mr. Teetor was a former member of the Empire State Paper Trade Assn. and the National Paper Trade Assn.

CLEARING HOUSE

HELP WANTED

MEN WANTED — POSITIONS OPEN

We can place—Managers, supts., foremen and mechanics for converting plants; mgr. degumming plant; supt. for mill making asbestos cement shingles, flat sheets and corrugated board; supt. Fourdrinier mach. paper mill; mgr. bag mfg. plant; night supts. and asst. supts. for board mills; training director; purchasing agents and asst. purch. agents.

Plant engineers, mech. engineers, master mechanics, maintenance and mach. shop foremen, designers and draftsmen, salary range $5,000 to $10,000; chemists, chem. engineers and laboratory men; sales development man; also salesmen to sell paper, folding cartons and to sell products to paper and pulp mills and paper converting plants; foreman for cutting and creasing die room in folding carton operations; Cylinder and Fourdrinier mach. foreman; power supervisor; beater engineers; mach. tenders and back tenders.

LIST YOUR CONFIDENTIAL APPLICATION WITH US to keep informed of attractive positions open in the pulp and paper mills.

CHARLES P. RAYMOND SERVICE, Inc.
294 Washington St., Boston 8, Mass.
Telephone LIberty 2-6547

SPECIALISTS IN PLACING AND IN SUPPLYING PULP AND PAPER MILL EXECUTIVES
O-31

WANTED

PAPERBOARD SALESMAN in New York-Philadelphia area by mill making good grade of specialties and which expects to expand its operation both in tonnage and variety of of grades. Prefer a young man with experience who understands the application of various grades of boards. Applicant should have his own car and salary is dependent on his ability and experience. We want a man of integrity and ability. Write giving all details of experience as well as personal data. Replies will be kept strictly confidential. Our employees know about this ad. Reply to Box 52-462 c/o Paper Trade Journal.
O-31

WANTED
MECHANICAL ENGINEER

With steam plant and steam distribution design experience for New England mill, salary $7,000-$8,000 year. Telephone or write in confidence to CHARLES P. RAYMOND SERVICE, Inc., 294 Washington St., Phone LIberty 2-6547, Boston 8, Mass.
O-31

WORKING SUPERINTENDENT for small fast growing Eastern mill making lightweight specialties. Cylinder machine experience essential. State qualifications and salary expected. Address Box 52-76 care Paper Trade Journal. TF

HELP WANTED

RESEARCH CHEMIST

Excellent opportunity for chemist or chemical engineer interested in research and development work with a large organization. Prefer Ph.D. with pulp, paper, paperboard or paper coating experience. Supervisory ability desirable. Send complete resumé to Box No. 52-446 care Paper Trade Journal. N-7

HELP WANTED

Starting our second machine. Need Machine Tenders, Back Tenders, Third Hands, and Beater Engineers. One straight Fourdrinier and One Yankee Fourdrinier. Manufacturing Wrappings, Specialties, Corrugating Medium, and Light Weight Chip. Best of Labor Relations, Insurance, and Liberal Pension Plan. Mill Located about 40 miles from Chicago, Ill.

PRAIRIE STATE PAPER MILLS
JOLIET, ILLINOIS PHONE 3-3441 OR WRITE
TF

GENERAL ACCOUNTANT

Under general direction of comptroller, to supervise general accounting dept., maintain general ledger, develop financial statements, prepare all tax returns, and handle operating budgets. Should have college degree plus at least five years of accounting experience in paper industry. In reply summarize training and experience. Address—Bowaters Southern Paper Corporation, Calhoun, McMinn County, Tennessee. TF

PLANT ENGINEER

To coordinate activities of design engineering firm and contractors during construction. Direct all engineering and maintenance in completed mill. Should have not less than ten years experience in pulp and paper mill maintenance. Experience in maintenance of sulphate pulp production facilities necessary. Familiarity with groundwood and newsprint production desirable. Summarize experience. Bowaters Southern Paper Corp., Calhoun, McMinn County, Tennessee. TF

SALARIED POSITIONS $3,500 to $35,000. We offer the original personal employment service (established 42 years). Procedure of highest ethical standards is individualized to your personal requirements. Identity covered; present position protected. Ask for particulars. R. W. BIXBY, INC. —117 Dun Bldg., Buffalo, 2, N. Y.
O-31

TOUR BOSS—Shift work. Two machine mill located in northeastern Pennsylvania. Must have thorough experience waxing base stock and lightweight tissues. Reply giving entire personal history, experience, references and salary expected to Box 52-444 care Paper Trade Journal. N-7

OHIO PAPER MILL producing quality papers, desires sheet cutter foreman. Steady employment, good wages. Ability to organize, handle help. Maintain equipment and secure high speed production essential. References. Write for interview. Address Box 52-464 care Paper Trade Journal. N-21

HELP WANTED

SUPERINTENDENT

For Paper Mill Manufacturing High Grade Folding Boxboard. Splendid Opportunity with Progressive Firm for Man of Proper Qualifications. Reply to Box 52-453, c/o Paper Trade Journal. TF

ASSISTANT SUPERINTENDENT, paperboard, M. E. pref.; Mechanical Engineers for maintenance and eng. depts., paper mill experience required; Hydraulic Engineer, M.S. exper. fluid mechanic lab., Paper Mill Superintendent, sulphite papers; Administrator, plant management, costs, burgetary control, excell. position for right man; Power plant Supervisor, exp. elect. steam and hydraulic power, handle help; Young Advertising man, paper, paper products. Many other positions open. PERSONNEL SERVICE ASSOC., 115 State Street, Springfield 3, Mass. O-31

SUPERINTENDENT wanted to supervise manufacture Fine Paper and Sulphite specialties in integrated New England Mill. Good opportunity for right man. Address Box 52-459 care Paper Trade Journal. N-7

SITUATIONS WANTED

PLANT MANAGEMENT

Actual plant management covers ten years for complete range of plain and printed envelopes and papeterie manufacture, ruled items made up for educational and commercial use. Also multi-colored tags, seals and business forms. Have successfully installed management procedures—production control, standard costs, wage incentives, job evaluation, labor relations-negotiations. Background covers complete engineering. Address Box 52-447 care of Paper Trade Journal. O-31

SUPERINTENDENT—25 years practical experience manufacturing folding boxboard and high grade light and heavy weight specialties from sulphite, sulphate, groundwood and old paper stock. Aggressive, capable man, good references. Address Box 52-402 care Paper Trade Journal. N-7

SUPERINTENDENT—12 years running Machine, 2 years as Beater Engineer, 4 years as Tour Boss, 2 years as asst. Supt., 5 years as Supt. Experienced in the mfg. of light and heavy wgh. Specialty grades, Facial and Toilet Tissues, Crepeing and Foil Mounting, one time Carbonizing. Both Yankee and Fourdrinier Machines. References. Address Box 52-451 care Paper Trade Journal. O-31

EXPERT CONSULTING SERVICES AND LABORATORY FACILITIES—Available for problems relating to waste paper; its stock preparation, de-inking, bleaching; plant engineering, design, construction, operational problems. In strictest confidence. Address Box 52-454 care Paper Trade Journal. TF

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SUPERINTENDENT with twenty years experience on both Yankee and Fourdrinier making tissue, towel, napkin and facial; aggressive man with excellent labor relations and references. Address Box 52-463 care Paper Trade Journal. O-31

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COMPLETELY FACTORY RECONDITIONED AND READY FOR DELIVERY

One (1) **500 KW 80% 625 KVA General Electric Alternating Current Generator,** type ATB, Form HL, 3 phase, 60 cycle, 3600 RPM direct connected to:

One (1) **500 KW Murray Condensing Turbine,** 9 stage, 240# Steam Pressure, 0-100 deg-superheat, 3600 RPM, 900 Sq. Ft. Westinghouse Surface Condenser.

Address Box 52-457, c/o Paper Trade Journal for further information. N-21

FOR SALE

1—55" Beck Sheeter—Model CCSH-5. Static Eliminator Built in motor drive. AC motor equipment. Deferential cut Register attachment. GE Eye Control. Jogger delivery table. Manufactured 1951. Practically new machine.

Address Box 52-455 care Paper Trade Journal. O-31

FOR SALE—2—36" Bauer double revolving disc pulpers in excellent condition. For full particulars write Box 52-450 care Paper Trade Journal. N-14

FOR SALE—50,000 gallon capacity closed Redwood Water Tank. SEAMAN PAPER COMPANY, Otter River, Mass. TF

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NEVER BEEN USED AND IN ORIGINAL CRATES READY FOR SHIPMENT

One (1) 4' x 20" Glens Falls Rotary Sulfur Burner, suitable for burning 30 to 85 lbs. sulfur per hour. Furnished complete with motorized speed reducer with totally enclosed motor for operation on 220/440 Volt, 3 Phase, 60 Cycle current.

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For Sale—Style 400 size 36 double disc Bauer Refiner with 4 sets of new discs used 3 months—like new.

BALL BROTHERS CO.
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FOR SALE

42" Camachine No. 6.
48" Kidder model CH Slitter.
72" Cameron 8-10 Slitter.
50" Hamblet Sheeter, with Back-stand.
100" Dillon Sheeter, with Back-stand.
Back-stands, made to order—any size.
THOMAS W. HALL COMPANY, Inc.
120 West 42nd St., New York 18
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1—Rubber covered Suction Press Roll 25" dia., 149" drilled face, anti-friction bearings, Herringbone gear and back drive. Will shorten this roll to fit your machine and guarantee job.

OSBORNE PAPER MILL EQUIPMENT CORP.
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One Clark-Aiken 64" Simplex Cutter with Maxon Overlapping Layboy.
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FOR SALE—70" trim Fourdrinier paper machine shut down one week, including four Valley Iron Works beaters, four washers with cast iron tubs, 1 Jones Majestic Jordan with ⅛" stainless steel filling, 2 duplex stock pumps, 2 Leith Walk screens, chrome plated, 3 Vortraps plus auxiliary. Fourdrinier wire 84" x 55 ft. 2 presses 17" dia. rolls, smoothing press, 21 dryers 36" x 80" with Ross Grewing air system, 6 roll calender, M. & W. two drum winder, size press, drum reel, available with drive and pumps. Can be inspected in present location. FRANK H. DAVIS COMPANY, 175 Richdale Ave., Cambridge, 40, Massachusetts. O-31

FOR SALE—One Mosstype rubber plate mounting machine. This machine was purchased in 1947 and has never been used. It is in perfect condition. It is used for mounting rubber plates for aniline and letterpress printing, registering multi-color plates, and color proofing. This machine is Mosstype Model C-60. The width of impression cylinder this machine will take is 60". Price, $2500.00. Address Box 52-461 care Paper Trade Journal. O-31

FOR SALE—Tissue Mill located 20 miles above Albany, N. Y. 72 inch Cylinder Machine. Priced right. Principals only. Address Box 52-442 care Paper Trade Journal. N-7

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WANTED—Waxing Machine for dry waxing 30" or wider. Address Box 52-448 care Paper Trade Journal. O-31

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WANTED—One Camachine Model 10-B-14 width Rolls 82". Address Box 52-458 care Paper Trade Journal. N-7

WANTED—A Yankee Drier for creping 6' or 8' diameter 80/90 face cast iron or steel —wanted immediately. Address Box 52-465 care Paper Trade Journal. O-31

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Wire No.	Company	Size	
10429	Eastwood	88" x 32'2"	55 mesh bronze
11340	Eastwood	70" x 40'4"	55 mesh bronze
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4612	Sinclair	88" x 43'2"	60 mesh bronze
4610	Sinclair	88" x 43'2"	60 mesh bronze
3974	Sinclair	69" x 40'4"	60 mesh bronze
31939	Sinclair Saveall Washer	110" x 116"	
91955	Appleton	88" x 43'2"	55 mesh bronze
91893	Appleton	88" x 43'2"	55 mesh bronze
2855	McCluskey	88" x 43'2"	55 mesh bronze
2878	McCluskey	88" x 43'2"	55 mesh bronze
78392	Appleton	69" x 40'4"	65 mesh bronze
49673	Chinney	69" x 40'	75 mesh bronze

Felt No.	Company		
92-8959	Huyck	26' x 90"	Pulp XH
15120	Albany	26' x 90"	Pulp
15121	Albany	26' x 90"	Pulp
6813	Lockport	28' x 72"	Pulp
6814	Lockport	28' x 72"	Pulp
17147	Albany	28' x 70"	Pulp
17148	Albany	28' x 70"	Pulp
761-FR-1	Asten Hill	90" x 114'	Dryer
6535-F	Asten Hill	80" x 110'6"	Dryer
41596	Woodbury	42½' x 70"	Dryer
52-208	Triumph	42½' x 70"	Dryer
93129-F	Albany	18" dia. x 100"	Length Jackets
8592-C	Albany	18" dia. x 100"	Length Jackets
70516	Woodbury	4 yds. x 90"	Dryer
C 264	Brandon	42½' x 70"	Dryer

Anyone interested in any of the above wires or felts, contact Kleene-Fibre Corporation, Box B, Chatham, New York. Phone 2-3101.

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1 Sandusky Suction Couch Roll, 126" drilled face x 22" diameter.

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BARKING DRUM
1—10' x 30'.
BEARINGS
72—Top and bottom Dryer Bearings 7" diameter.
BEATERS
1—Dilts Iron Tub Laboratory Beater Beater roll 14" diameter x 10½" face.
CALENDER STACKS
1—9 roll 56" Supercalender Stack.
1—9 roll 68" Calender Stack.
1—4 roll 72" Calender Stack. (Extra heavy duty).
1—3 roll 60" Friction Calender Stack. Two iron rolls and 1 Paper or Cotton Roll.
1—12 roll 116" Calender Stack.
1—9 roll 84" Supercalender Stack.
CHEST
1—Cast Iron Stock Chest, 25' long x 6' high. (With agitator).
CHIPPERS
1—96" Murray 4 knife Chipper—anti-friction bearings.
1—84" Carthage 4 knife Chipper.
CLASSIFINER
1—Dilts Classifiner, practically new, with motor.
CRUSHER & HAMMERMILL
1—Murray Chip Crusher.
4—Jeffrey Hammermill.
1—#6 Mitts & Merrill Hog.
CYLINDER MOLDS
2—30" diameter x 72" face.
2—36" diameter x 54" face.
4—36" diameter x 84" face.
1—48" diameter x 72" face.
1—30" diameter x 92" face.
1—42" diameter x 120" face.
4—42" diameter x 130" face.
1—48" diameter x 117" face.
2—36" diameter x 110" face.
DIGESTERS
2—14' Globe Rotary Digesters.
DRIVES
1—Jones Reducer 75 h.p.—30.8 to 1.
1—#6½ Reeves Drive.
1—#4 Reeves Drive
1—Reliance Electric Drive, complete with 5 gear head motors.
DRYERS
1—Complete unit, consisting of 6 dryers, 36" diameter x 38" face, including frames, gears, anti-friction bearings.
7—24" diameter x 48" face.
1—36" diameter x 143" face.
3—36" diameter x 74" face.
1—48" diameter x 70" face.
2—Dryers 48" diameter x 134" face.
1—24" diameter x 92½" face.
2—28" diameter x 48" face.
1—36" diameter x 67" face.
3—48" diameter x 88" face, with bearings and gears.
1—36" diameter x 90" face.
2—36" diameter x 120" face.
6—36" diameter x 76" face.
1—48" diameter x 144" face.
5—28" diameter x 77" face.
FLAT SCREENS
2—12 plate Flat Screens.

FOURDRINIER PARTS FOR 134" MACHINE
6—Suction Boxes. Brass Slide Rails.
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50 gears, for 36" diameter Dryers, 108 teeth 3¼" face.
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2—4 pocket Grinders.
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2—#1 Jones High Speed Jordans, with 75 h.p. motors, new 1948.
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1—#20 Hyster.
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2—IMPCO Lime Sludge Filters, vacuum type, 5' diameter x 4' face.
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Write us regarding your requirements.
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3—Sets Primary Presses, complete, 145" face Anti-friction bearings. Also all types of rolls for 145" wet end.
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Various cone and assorted pulleys.
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1—Jones Pulper. Complete with motor and drive.
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3—Shartle Brothers circulating pumps, each 4,000 g.p.m.
1—Frederick, 8 x 12, with motor.
1—Shartle, 8 x 14, 2000 g.p.m., 62' head, direct connected to circulating pump, with motor.
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1—123"—3 bowl Revolving Reel.
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2—#1 Claflin Refiners.
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3—Rubber Cover Press Rolls, 76" face x 18¾" diameter. Plastometer 25.
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1—#5 Bird Saveall.
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1—Pusey & Jones 42" x 146" Saveall.

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1—134" face x 14" diameter with Messenger bearings.
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1—48" Hamblet Sheeter.
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30—Beloit Steam Joints.
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1—Sandusky Suction Press Roll 130" drilled face x 14⅝" diameter.
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30—90" face x 3" diameter.
Write us regarding your requirements.
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3—Cheney Bigelow 36" diameter x 110" face mold.
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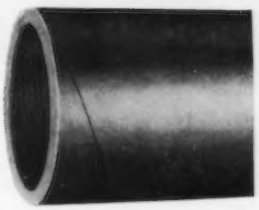

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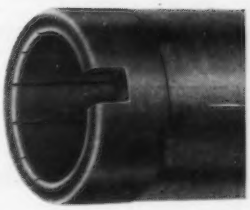

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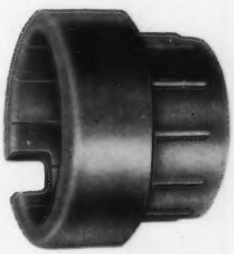

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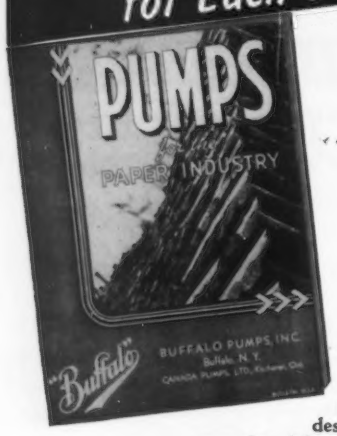

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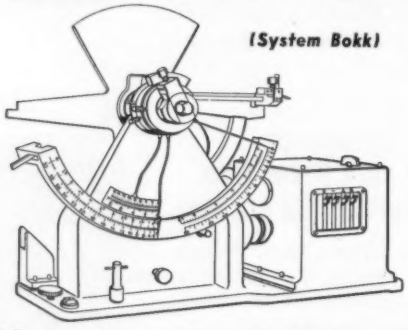

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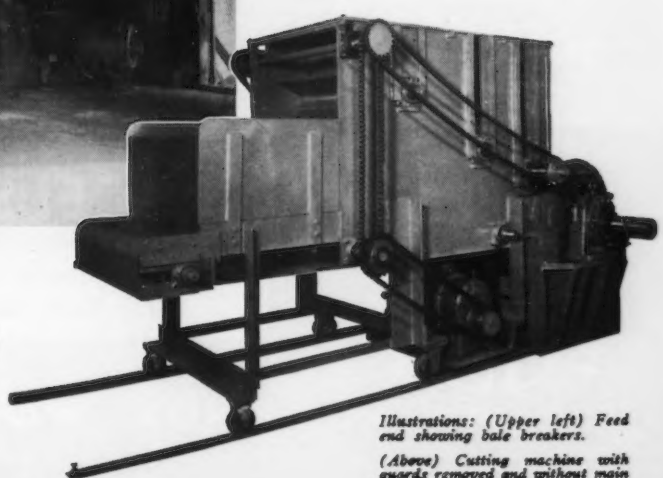

- It opens the bales.
- Cuts the straw to short lengths.
- Shortens the time in the digesters.
- Improves the product.
- Permits the use of straw in papers where never possible before.
- Cuts up to 1000 pounds of straw per minute.

Illustrations: (Upper left) Feed end showing bale breakers.

(Above) Cutting machine with guards removed and without main motor.

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Williams Apparatus Co., Inc.

SHEET MACHINES—LABORATORY
The Noble & Wood Machine Co.

SHEETERS
Jagenberg-Werke Akt. Ges.

SHOWER PIPES
Bird Machine Company
Black-Clawson Co.
Downingtown Mfg. Co.
Moore & White Co.
Sandusky Fdy. & Mch. Co.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.

SHREDDERS
Bauer Brothers Co.
Carthage Machine Co.
Gibbs-Brower Company, Inc.
Jackson & Church Co.
Jeffrey Mfg. Co.

SILO STORAGE
Marietta Concrete Corp.

SIZE PRESSES
Black-Clawson Co.
Manchester Machine Co.
Rice Barton Corporation

SIZING
American Bitumuls & Asphalt Co.
American Cyanamid Company, Industrial Chemicals Division
The Dow Chemical Company
du Pont, E. I., de Nemours & Co.
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Hercules Powder Co.
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Wyandotte Chemicals Corp., Michigan Alkali Div.

SIZING TESTER
W. & L. E. Gurley
Testing Machines, Inc.
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SLIME CONTROL
Buckman Laboratories, Inc.
Buckman Laboratories of Canada, Ltd.
The Dow Chemical Company
E. I. du Pont de Nemours & Co.
General Dyestuff Corp.
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Wyandotte Chemicals Corp., Michigan Alkali Div.

SLITTERS
The Bagley & Sewall Company
Black Clawson Company
Cameron Machine Co.
Carthage Machine Co.
Clark-Aiken Co.
Dietz Machine Works
Dilts Machine Works
Downingtown Mfg. Co.
Dusenbery Co., Inc.
Frank W. Egan & Co.
Gibbs-Brower Company, Inc.
Graphic Arts International Corp.
Thomas W. Hall Co., Inc.
Hamblet Machine Co.
Hudson-Sharp Mch. Co.
Improved Paper Machinery Corp.
Jagenberg-Werke Akt. Ges.
Langston Co., Samuel M.
Moore & White Co.
D. J. Murray Mfg. Co.
Rice Barton Corporation
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Works
Smith & Winchester Mfg. Co.
Valley Iron Works Co.
Waldron Corp., John

SMOKE STACKS
Chicago Bridge & Iron Co.

SOFTNESS-STIFFNESS TESTER
W. & L. E. Gurley
Testing Machines, Inc.
Thwing-Albert Instrument Co.

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American Cyanamid Company, Industrial Chemicals Division
General Dyestuffs Corp.
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SPECIAL MACHINERY
Biggs Boiler Works Co.
Dilts Machine Works
Egan, Frank W., & Co.
Jackson & Church Co.
Manchester Machine Co.
The Noble & Wood Machine Co.
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The Sandy Hill Iron & Brass Works
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SPEED REDUCERS
Dodge Mfg. Corp.

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Williams-Gray Co.

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Armco Steel Corp.
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STEAM JOINTS
The Moore & White Co.
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STEAM SPECIALTIES
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STUFF CHESTS
Downingtown Mfg. Co.
E. D. Jones & Sons Co.
Moore & White Co.
The Noble & Wood Machine Co.
Rice Barton Corporation
Shartle Brothers Machine Co.
Valley Iron Works Co.

SUCTION BOX COVERS
Westinghouse Electric Corp.

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Beloit Iron Works
Black Clawson Company
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Beloit Iron Works
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Thwing-Albert Instrument Co.
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Thwing-Albert Instrument Co.
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Downingtown Mfg. Co.
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The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Valley Iron Works Co.

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Dodge Mfg. Corp.
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The Bagley & Sewall Company
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Magnus Metal Corp.
D. J. Murray Mfg. Co.
The Noble & Wood Machine Co.
William Powell Co.
Record Fdy. & Mch. Co.
Rice Barton Research Corp.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Valley Iron Works Co.
Walworth Company

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Biggs Boiler Works Co.
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The Bagley & Sewall Company
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Gibbs-Brower Company, Inc.
Improved Paper Machinery Corp.
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Shartle Brothers Machine Co.
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Dorr Company

WATER VAPOR CUPS
Thwing-Albert Instrument Co.

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Black Clawson Company
Dilts Machine Works
Frank W. Egan & Co.
Gibbs-Brower Company, Inc.
The Mayer Machine Co.
Potdevin Machine Co.
Shartle Brothers Machine Co.
Waldron Corp., John
Weber, Herman G.

WEB TENSION CONTROL
Dilts Machine Works (Kohler Systems)
Egan, Frank W., & Co.
John Waldron Corp.

WELDING EQUIPMENT
General Electric Company
Walworth Company
Westinghouse Electric Corp.

WET MACHINES
The Bagley & Sewall Company
Black Clawson Company
Carthage Machine Co.
Downingtown Mfg. Co.
Improved Paper Machinery Corp.
Moore & White Co.
The Noble & Wood Machine Co.
Pusey & Jones Company
Rice Barton Corporation
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.

WET STRENGTHENING AGENTS
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Reichhold Chemicals, Inc.
Rohm & Haas Co.

WETTING AGENTS
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Diamond Alkali Co.
General Dyestuff Corp.
Monsanto Chemical Company
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Rohm & Haas Co.
Wyandotte Chemicals Corp. Michigan Alkali Div.

WHITE WATER TREATING EQUIPT.
Bird Machine Co.
Hungerford & Terry, Inc.
The Sandy Hill Iron & Brass Works

WINDERS & REWINDERS
The Bagley & Sewall Company
Beloit Iron Works
The Appleton Machine Co.
Black Clawson Company
Kohler Systems
Cameron Machine Co.
Dietz Machine Works
Dilts Machine Works
Downingtown Mfg. Co.
Dusenbery Co., Inc.
Frank W. Egan & Co.
Gibbs-Brower Company, Inc.
Thomas W. Hall Co.
Hudson-Sharp Mch. Co.
Jagenberg-Werke Akt. Ges.
Langston Co., Samuel M.
Manchester Machine Co.
Moore & White Co.
Potdevin Machine Co.
Pusey & Jones Corp.
Rice Barton Corporation
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Corp.
Smith & Winchester Mfg. Co.
Waldron Corp., John

WINDING ROLL CHANGERS
Dilts Machine Works (Kohler Systems)
Egan, Frank W., & Co.
Waldron, John, Corp.

WIRE BRUSHES
M. W. Jenkins Sons, Inc.
Williams-Gray Co.

WIRE GUIDES
Black-Clawson Co.
Gilbert & Nash

WIRES
Appleton Wire Works
Eastwood-Nealley Corp.
International Wire Works
Lindsay Wire Weaving Co.
Williams-Gray Co.
Wisconsin Wire Works

WOOD SPLITTERS
The Appleton Machine Co.
Carthage Machine Co.
Manchester Machine Co.

Paper TRADE JOURNAL

INDEX TO ADVERTISERS

A

Alan Wood Steel Co. ..... —
Alexander Brothers ..... —
Amercoat Corp. ..... —
American Bitumuls & Asphalt Co. ..... —
American Cyanamid Co., Calco Chemicals Div. ..... —
American Cyanamid Co., Industrial Chemicals Div. ..... —
American Defibrator, Inc. ..... —
American Steel & Wire Co. ..... —
Antara Chem. Div., General Dyestuff Corp. ..... —
Apmew, Inc. ..... —
Appleton Machine Co., The ..... —
Appleton Wire Works, Inc. ..... —
Appleton Woolen Mills 36
APW Products Co. 14
Armco Drainage & Metal Products ..... —
Armco Steel Corp. ..... —
Armstrong Machine Works ..... —
Askania Regular Co. ..... —
Asten-Hill Mfg. Co. ..... —

B

Babcock & Wilcox Co. ..... —
Bagley & Sewall Co. ..... —
Bahr Bros. Mfg. Co. ..... —
Bailey Meter Co. ..... —
Bareco Oil Co. ..... —
Barrell, Wm. L., Co. ..... —
Bauer Bros. Co. ..... —
Beckman Instruments, Inc. ..... —
Beloit Iron Works ..... —
Biggs Boiler Works Co. ..... —
Bird Machine Co. 13
Birmingham Committee of 100 ..... —
Bixby, R. W., Inc. 39
Black-Clawson Co. 8
Blaw-Knox Co. ..... —
Bowsher, N. P., Co. ..... —
Broughton, A. E., & Co. ..... —
Brown Co. ..... —
Buffalo Pumps, Inc. 44
Bulkley, Dunton Processes, Inc. —
Byron Jackson Co. ..... —

C

Calgon, Inc. ..... —
Cambridge Instrument Co. ..... —
Cameron Machine Co. ..... —
Carnegie-Illinois Steel Corp. ..... —
Carthage Machine Co. ..... —
Chemipulp Process, Inc. ..... —
Chicago Bridge & Iron Co. ..... —
Ciba Company ..... —
Clark-Aiken Co. ..... —
Classified Advertising 39
Clearing House 39
Clinton Foods, Inc. ..... —
Columbia-Southern Chem. Corp. —
Combustion Engineering - Superheater, Inc. ..... —
Cowles Co., Inc. ..... —
Crane Co. ..... —
Crucible Steel Corp. of America —

D

De Laval Steam Turbine Co. .. —
Denver Equipment Co. ..... —
DeZurik Show Co. ..... —
Diamond Alkali Co. ..... —
Dietz Machine Works ..... —
Dilts Machine Works 8
Dings Magnetic Separator Co. . 33
Dodge Manufacturing Corp. .... —
Dow Chemical Co. ..... —
Downingtown Mfg. Co. ..... —
Draper Brothers Co. ..... —
du Pont, E. I., de Nemours & Co. Electrochemical Dept. ..... —
du Pont, E. I., de Nemours & Co. Dyestuffs Dept. ..... —
du Pont, E. I., de Nemours & Co. Grasselli Chem. Dept. ..... —
du Pont, E. I., de Nemours & Co. Polychemicals Dept. ..... —

E

Ebasco Services, Inc. 47
Egan, Frank W., & Co. ..... —
Elixman Paper Core Co. 35
Elwell Parker Elec. Co. ..... —
English China Clays Sales Corp. —

F

Farrel-Birmingham Co., Inc. .... —
Ferguson, The H. K. Co. ..... —
Fibre Making Processes ..... —
Fibre Glass Div., Libbey-Owens-Ford Glass Co. ..... —
Fitchburg Screen Plate Co. .... —

G

Geigy Co. ..... —
General Dyestuff Corp. ..... —
General Electric Co. ..... —
Gibbs-Brower Co. ..... —
Gilbert & Nash Co. ..... —
Glidden Co. ..... —
Goodrich Chemical Co. ..... —
Goodrich Co., B. F. 3
Goodyear Tire & Rubber Co. .... —
Goslin-Birmingham Mfg. Co. .... —
Gottesman & Co. ..... Front Cover
Graton & Knight Co. ..... —
Graver Tank & Mfg. Co. ..... —
Grinnell Co., Inc. ..... —
Gurley, W. & L. E. ..... —

H

Hall, Thomas W., Co., Inc. 40
Hamblet Machine Co. ..... —
Hammersley Mfg. Co. ..... —
Hanchett Mfg. Co. ..... —
Hardinge Co., Inc. ..... —
Hart Moisture Meters, Inc. .... —
Hayden Wire Works ..... —
Heinrich, H. H., Co. ..... —
Hercules Powder Co. 15
Hermann Manfg. Co. ..... —
Heyden Chemical Co. ..... —
Holyoke Machine Co. ..... —
Hooker Electrochemical Co. .... —
Huber, I. M., Corp. ..... —
Hubinger Co., The ..... —
Hudson-Sharp Machine Co. ..... —
Hungerford & Terry, Inc. ..... —
Huyck, F. C., & Sons ..... —
Hydro-Silica Corp. ..... —

I

Improved Paper Machy. Corp. .. —
International Nickel Co. ..... —
International Wire Works .... —

J

Jackson & Church Co. ..... —
Jeffrey Mfg. Co. ..... —
Jenkins, M. W., Sons, Inc. .... —
Johnson Corp., The ..... —
Johnson, Alvin H., & Co. 38
Jones, E. D., & Sons Co. ..... —

K

Kalamazoo Tank & Silo Co. .... —
Kinsley Chemical Co. 42
Knox Woolen Co. 46
Koppers Co., Inc. 51

L

Langston, Samuel M., Co. 10
Lewis-Shepard, Inc. ..... —
Libbey-Owens-Ford Glass Co. .. —
Lindsay Wire Weaving Co. 37
Lobdell United Co. ..... —
Lockport Felt Co. ..... —
Lodding Engineering Co. ..... —
Lukens Steel Co. 2
Lyddon Co. ..... —
Lynch Corp. ..... —

M

Magnuson Products Co. ..... —
Magnus Metal Div., Nat. Lead Co. ..... —
Main, Charles T., Inc. 38
Manchester Machine Co. ..... —
Manheim Mfg. & Belting Co. .. —
Marietta Concrete Corp. ..... —
Mead Sales Co., The ..... —
Meincke, A. M., & Son ..... —
Meisel Press Mfg. Co. ..... —
Mercer Paper Tube Co. 34
Merrick Scale Co. ..... —
Michigan Steel Casting Co. 38
Midwest Fulton Machine Co. .. —
Minneapolis-Honeywell Regulator Co. ..... —
Mixing Equipment Co. ..... —
Monsanto Chemical Co. 4
Moore & White Co. 17
Moorhead Electrical Machinery. —
Morden Machines Co. ..... —
Morey Paper Mill Supply Co. . —
Morningstar, Nicol, Inc. ..... —
Mount Hope Machinery Co. .... —
Murray, D. J., Mfg. Co. ..... —

N

Nash Engineering Co. ..... —
National Aluminate Corp. ..... —
National Aniline Div., Allied Chem. & Dye Corp. ..... —
National Starch Products, Inc. . —
National Tube Co. ..... —
Naugatuck Chem. Div., U. S. Rubber Co. ..... —
Niagara Alkali Co. ..... —
Nichols Engrg. & Research Co. —
Noble & Wood Machine Co. .... —
Nopco Chemical Co. ..... —
Nordicus, Inc. 34
Norton Co. ..... —

O

O'Donoghue, Roderick 38
Oldbury Electro Chemical Co. . —

P

Pandia, Inc. ..... —
Parsons & Whittemore ..... —
Pennsylvania Salt Mfg. Co. ..... —
Perkins, B. F., & Sons Co. .. —
Perkins Goodwin Co. ..... —
Petroleum Specialties Co. ..... —
Pioneer Paper Stock Co. ..... —
Pittsburgh Piping & Equip. Co. —
Plaskon Div., Libbey-Owens-Ford —
Poirier Control Co. ..... —
Potdevin Machine Co. ..... —
Powell, William, Co. ..... —
Price & Pierce, Ltd. 47
Pulp & Paper Testing Co. ..... —
Process Industries Engineers, Inc. ..... —
Pulp Sales Corp. ..... —
Pusey & Jones Corp., The .... —

R

Railway Supply & Mfg. Co. .... —
Raymond, Chas. P., Service, Inc. 39
Reading Crane & Hoist Co. .... —
Record Fdy. & Machine Co. .... —
Red Ray Manufacturing Co., Inc. —
Reichhold Chemicals, Inc. .... —
Reliance Elec. & Engrg. Co. .... —
Research Corp. ..... —
Restigouche Co., Ltd. 36
Rice Barton Corp. ..... —
Reidel, Gus, & Son ..... —
Rogers, S. C., & Co. ..... —
Rohm & Haas Co. ..... —
Roosevelt Paper Co. ..... —
Roots-Connersville Blower Div. . —
Ross, J. J., Co. 41
Ross, J. O., Engrg. Co. ..... —
Ross Paper Machinery Co. .... —
Rust Engineering Co. 38

S

Sandusky Fdy. & Mch. Co. .... —
Sandy Hill Iron & Brass Works —
Seaboard Air Line R.R. Co. .. —
Shartle Bros. Machine Co. 8
Shuler & Benninghofen ..... —
Sill Industries ..... —
Simonds Saw & Steel Co. ..... —
Sinclair Refining Co. ..... —
Sirrine, J. E., Co. ..... —
SKF Industries 23
Smidth, F. L., & Co. ..... —
Smith, A. O., Corp. ..... —
Smith & Winchester Mfg. Co. . —
Socony Vacuum Oil Co., Inc. Back Cover
Sonoco Products Co. 43
Spray Engineering Co. 36
Stowe-Woodward ..... —
Stroh Steel Co. ..... —
Sun Oil Co. 6
Sutherland Refiner Corp. ..... —
Swenson Evaporator Co. ..... —

T

Taylor Instrument Cos. ..... —
Taylor Stiles & Co. 45
Tennessee Coal, Iron & R. R. Co. ..... —
Testing Machines, Inc. ..... —
Texas Co., The ..... —
Texas Gulf Sulphur Co. ..... —
Thiele Kaolin Co. ..... —
Thomas Paper Stock Co. 46
Thwing-Albert Instrument Co. . —
Tide Water Assoc. Oil Co. .... —
Timken Roller Bearing Co. .... —
Titanium Pigment Corp. ..... —
Torrington Co., Inc. ..... —
Trecerlab, Inc. ..... —

U

United Carbon Co., Inc. ..... —
United States Steel Export Co. —
United States Steel Supply Co. —
U. S. Rubber Co. ..... —
U. S. Steel Co. ..... —

V

Valley Iron Works Co. ..... —
Vanderbilt, R. T., Co. ..... —
Van der Korput, A. 44
Virginia Smelting Co. ..... —

W

Waldron, John, Corp. ..... —
Walworth Co. ..... —
Waterbury Felt Co. ..... —
Weber, H. G., & Co., Inc. ..... —
Wellman Engineering Co. ..... —
Westinghouse Electric Corp. .... —
West Virginia Pulp & Paper Co. 42
Weyerhaeuser Timber Co. ..... —
Wheeler Roll Co. ..... —
Whiting Corp. ..... —
Williams Apparatus Co. ..... —
Williams Gray Co. ..... —
Wisconsin Wire Works ..... —
Wolferz, C. W. ..... —
Wyandotte Chemicals Corp. .... —

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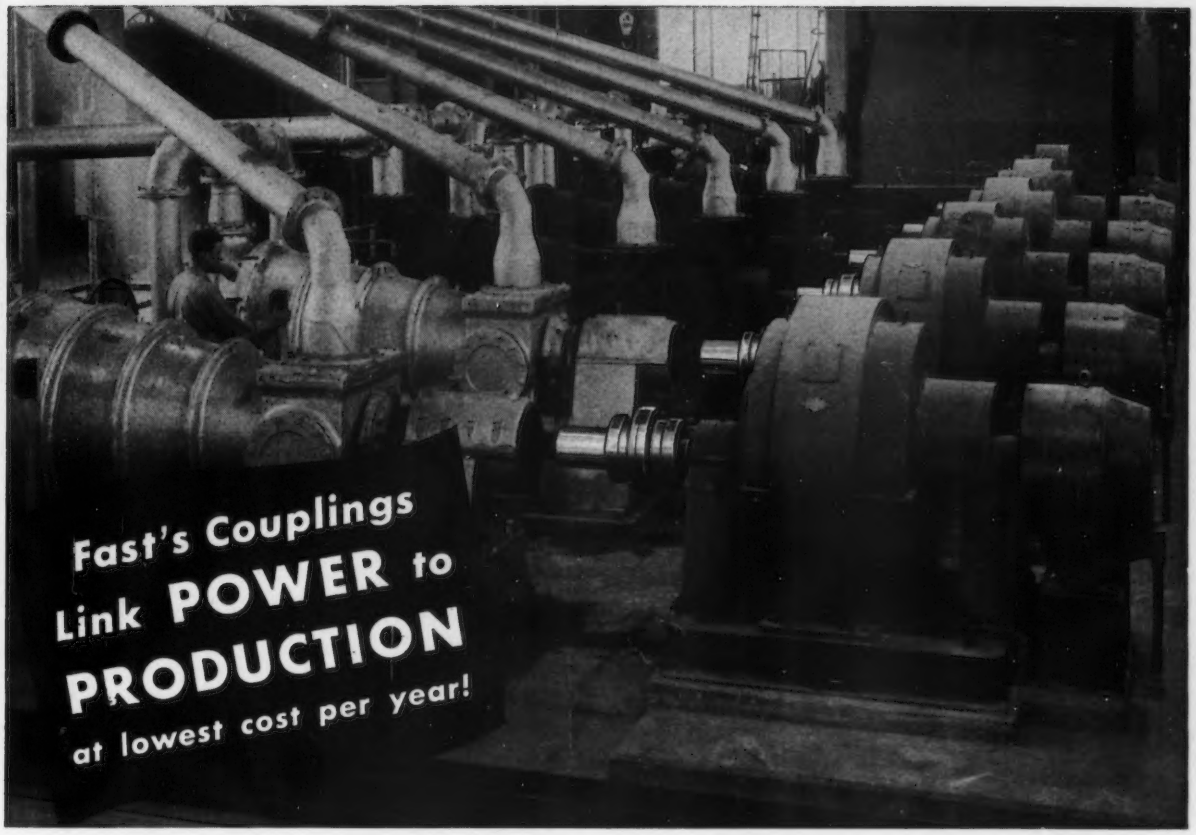

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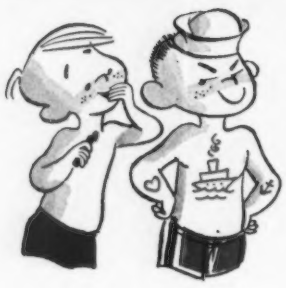
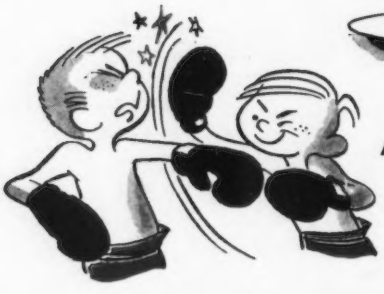


A GOOD PRINTER?

A WATER RESISTER?

AN EASY FOLDER?

A CURL REDUCER?



A SCUFF RESISTER?

S/V CEREMULS help give these characteristics—at low cost

Whatever type of paper you make, you can make it better—and at lower cost—with the help of these famous Socony-Vacuum wax emulsions.

S/V Ceremuls can be applied in the beater or as top sizes. Either way, they greatly improve sizing efficiency, and impart the required characteristics to your finished product. For example . . .

They plasticize starch and clay coatings in coated paper. In board stock, they improve fold. They reduce curl in carbon paper stock . . . make drinking cup stock water-repellent, butcher wrap grease-resistant, boxboard more scuff-proof.

* * *

For better sizing—better paper—use *S/V Ceremuls!* Consult your Socony-Vacuum Representative.

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